

THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY
AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT
CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS
WHICH MAY APPEAR HEREIN."

FIELD MAINTENANCE PRINT SET

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION
AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANU-
FACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 , DIGITAL EQUIPMENT
CORPORATION."

TABLE OF CONTENTS

B-TC-KA780-0-1
B-DD-KA780-0-2
E-UA-KA780-0-0
A-PL-KA780-0-0
D-MU-KA780-0-2
D-BD-KA780-0-3
D-FD-KA780-0-4
E-IA-7013628-0-0
E-MD-5012869-0-0
E-MD-5012871-0-0
D-IC-11780-0-3

E-AD-7014956-0-0
E-UA-M8218-0-0
B-PL-M8218-0-0
D-CS-M8218-0-1
E-UA-M8219-0-0
B-PL-M8219-0-0
D-CS-M8219-0-1
E-UA-M8220-0-0
B-PL-M8220-0-0
D-CS-M8220-0-1
E-UA-M8221-0-0
B-PL-M8221-0-0
D-CS-M8221-0-1
E-UA-M8222-0-0
B-PL-M8222-0-0
D-CS-M8222-0-1
E-UA-M8223-0-0
B-PL-M8223-0-0
D-CS-M8223-0-1
E-UA-M8224-0-0
B-PL-M8224-0-0
D-CS-M8224-0-1
E-UA-M8225-0-0
B-PL-M8225-0-0
D-CS-M8225-0-1
E-UA-M8226-0-0
B-PL-M8226-0-0
D-CS-M8226-0-1
E-UA-M8227-0-0

CPU ASSY (KA780) (TC)
DRAWING DIRECTORY (KA780)
CPU ASSY (KA780)
CPU ASSY (KA780)
MODULE UTILIZATION CPU
CPU SYSTEM BLOCK DIAGRAM
VAX AND CM MODE ENTRY POINTS
BACKPLANE ASSY (CPU)
BOARD, DRILL AND ETCH CPU - A,B,C
BOARD, DRILL AND ETCH CPU - D,E,F
11780 SUB SYSTEM POWER DIAGRAM

SUPPLY, UBA OPTION

S.B.L.
S.B.L.
S.B.L.
S.B.H.
S.B.H.
S.B.H.
C.A.M.
C.A.M.
C.A.M.
C.D.M.
C.D.M.
C.D.M.
T.B.M.
T.B.M.
T.B.M.
I.D.P.
I.D.P.
I.D.P.
I.R.C.
I.R.C.
I.R.C.
D.B.P.
D.B.P.
D.B.P.
D.E.P.
D.E.P.
D.E.P.
D.D.P.

UNIT VARIATIONS
COVERED BY THIS
PRINT SET

KA780-AA
KA780-AB

KA780
Field Maintenance
Print Set

Digital Equipment
Corporation

PRINT SET ORDER NO.
MP00496

REVISIONS

REV.
A
B

CHG. NO.
KA780-TW3
KA780-TW4

DATE
20 Nov 79
3 FEB 82

USED ON OPTION/MODEL
11780

DRN.
BOUDREAU
CHK'D
HEALY
PROJ. ENG.
E. Arton
FIELD SERV.
Wm Freeman

DATE
SEPT 77
NOV 77
15 NOV 77
15 Nov 77

TITLE:
CPU ASSY KA780

digital

SIZE
B

CODE
TC

NUMBER
KA780-0-1

REV.
B

SHEET I OF 2

DRB 124

TW

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 77 DIGITAL EQUIPMENT CORPORATION"

- B-PL-M8227-0-0

D-CS-M8227-0-1

E-UA-M8228-0-0

B-PL-M8228-0-0

D-CS-M8228-0-1

E-UA-M8229-0-0

B-PL-M8229-0-0

D-CS-M8229-0-1

E-UA-M8230-0-0

B-PL-M8230-0-0

D-CS-M8230-0-1

E-UA-M8231-0-0

B-PL-M8231-0-0

D-CS-M8231-0-1

E-UA-M8232-0-0

B-PL-M8232-0-0

D-CS-M8232-0-1

E-UA-M8238-0-0

B-PL-M8238-0-0

D-CS-M8238-0-1

E-UA-M8234-0-0

B-PL-M8234-0-0

D-CS-M8234-0-1

E-UA-M8235-0-0

B-PL-M8235-0-0

D-CS-M8235-0-1

E-UA-M8236-0-0

B-PL-M8236-0-0

D-CS-M8236-0-1

E-UA-M8237-0-0

B-PL-M8237-0-0

D-CS-M8237-0-1
- D.D.P.

D.D.P.

D.C.P.

D.C.P.

D.C.P.

D.A.P.

D.A.P.

D.A.P.

C.E.H.

C.E.H.

C.E.H.

I.C.L.

I.C.L.

I.C.L.

C.L.K.

C.L.K.

C.L.K.

W.C.S.

W.C.S.

W.C.S.

P.C.S.

P.C.S.

P.C.S.

U.S.C.

U.S.C.

U.S.C.

C.I.B.

C.I.B.

C.I.B.

T.R.S.

T.R.S.

T.R.S.

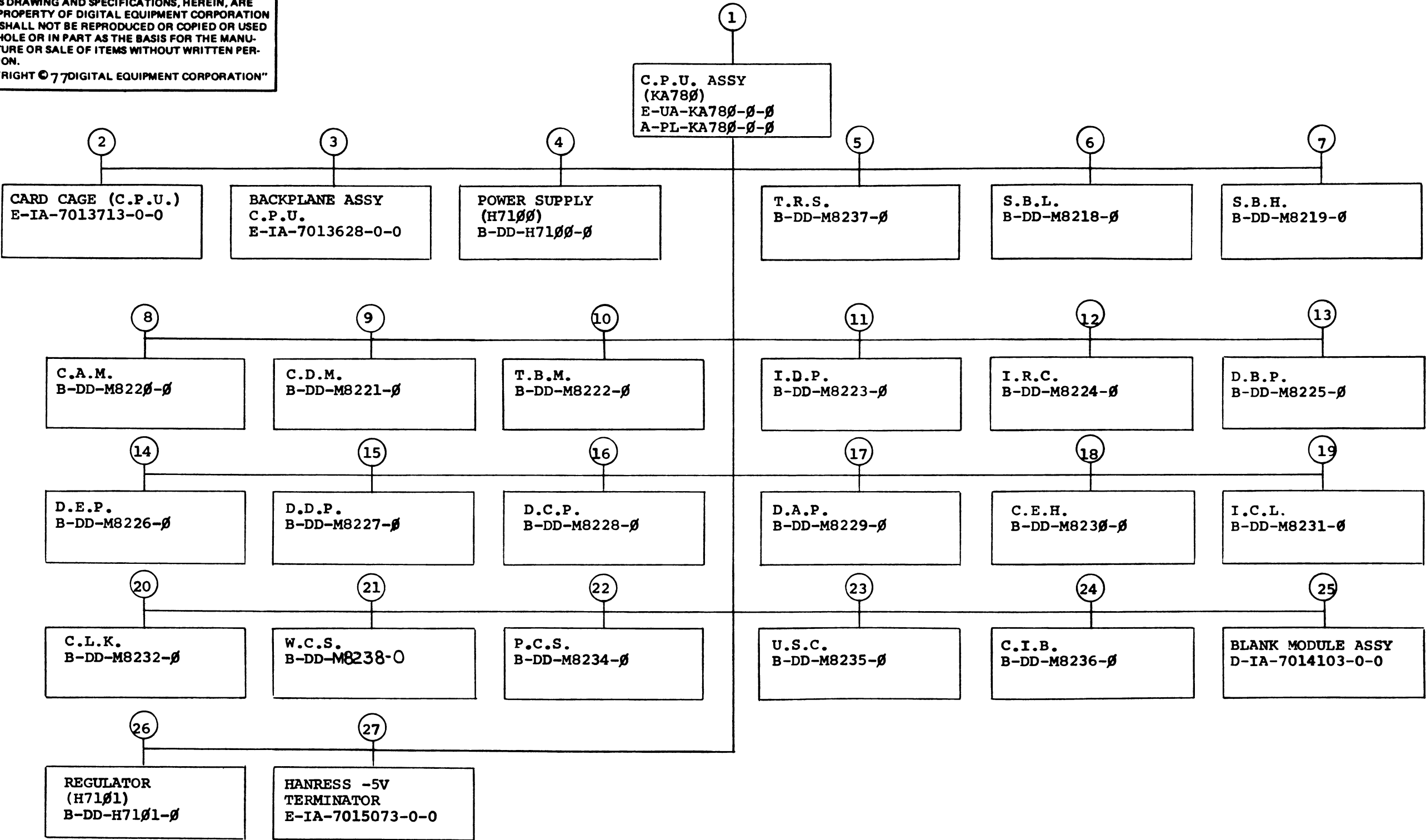
"THE MATERIAL HEREIN IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS WHICH MAY APPEAR HEREIN."

DRAWING DIRECTORY

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION."

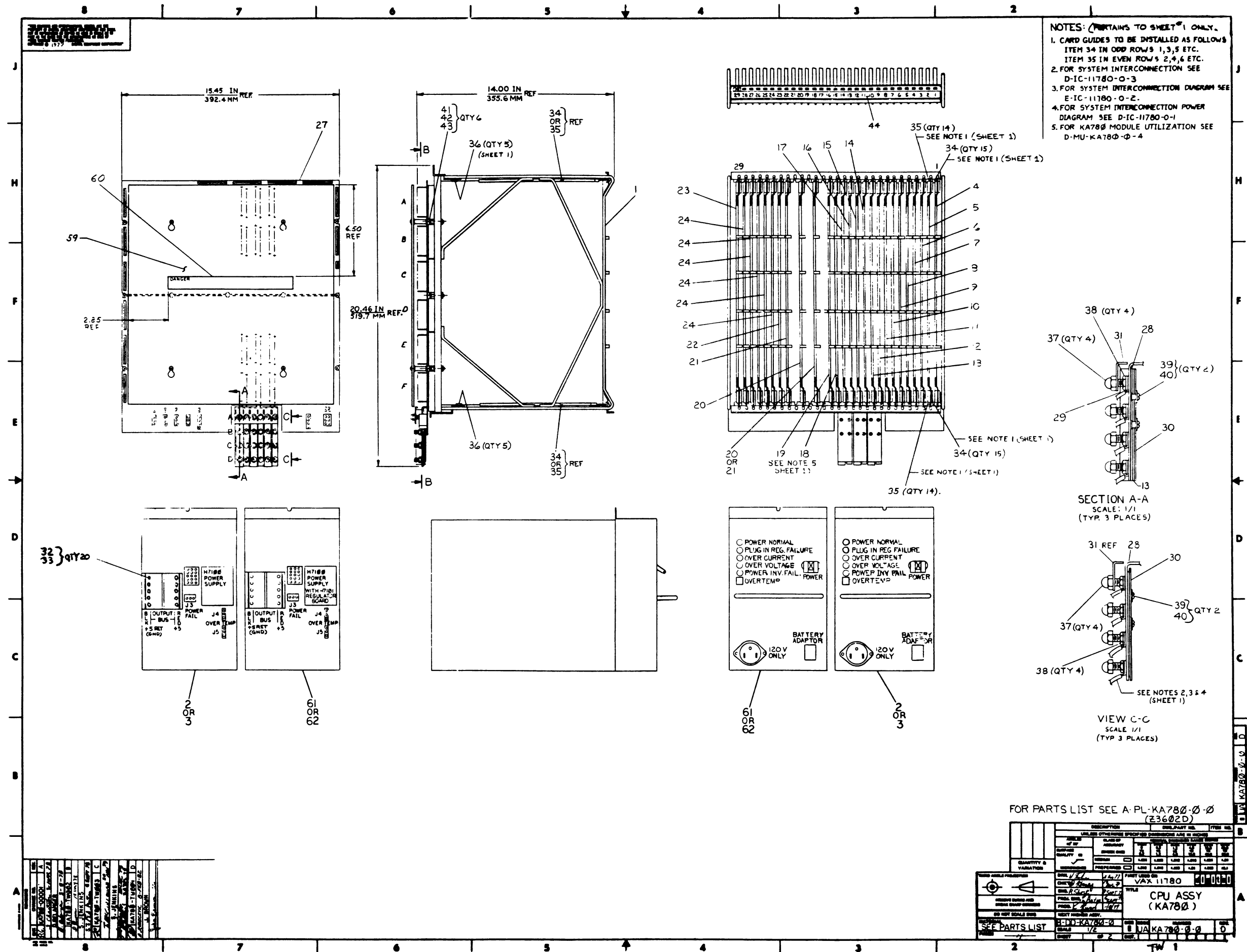
[illegible][illegible]

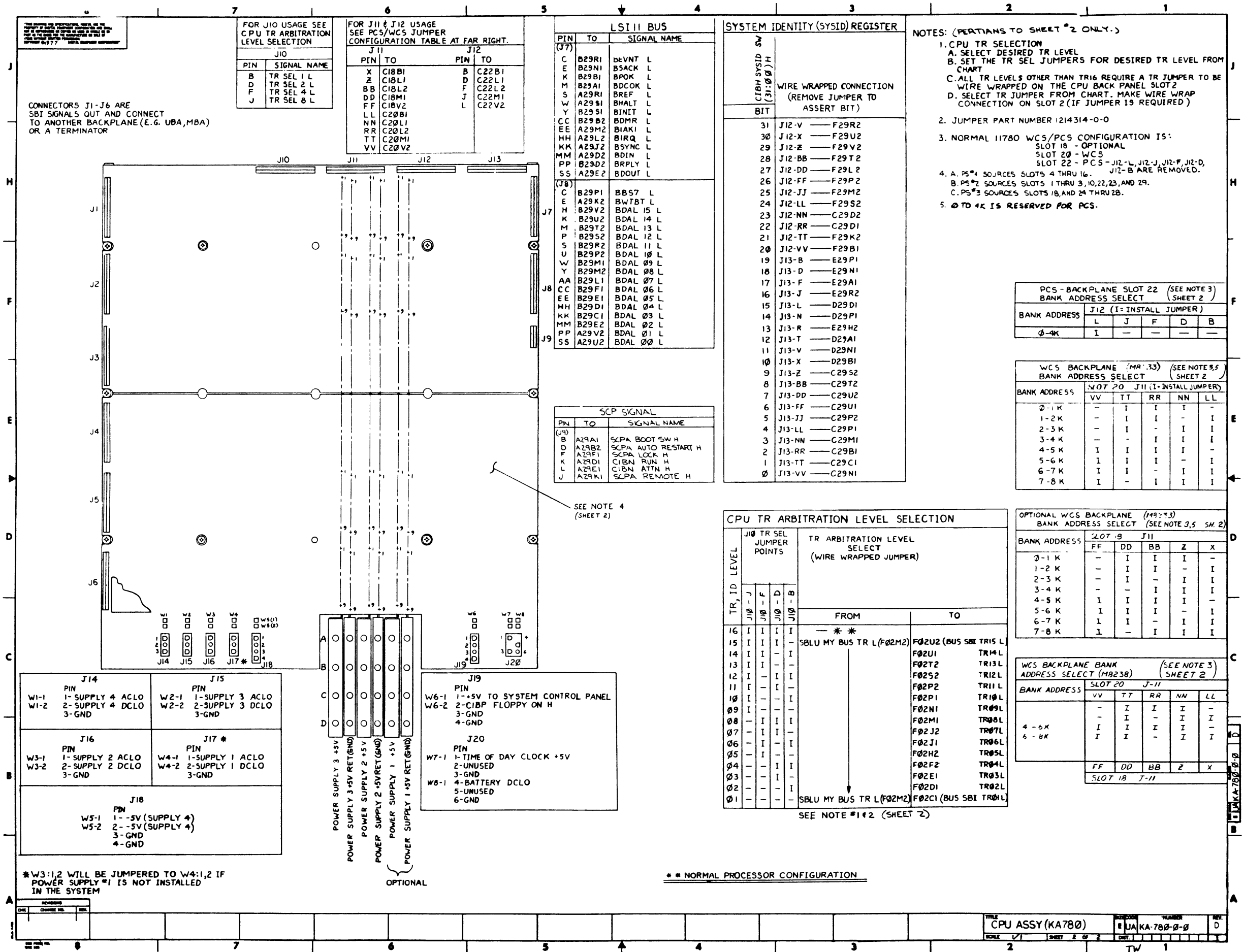
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1970 DIGITAL EQUIPMENT CORPORATION"



FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE			
1	MP00496	CPU ASSY (KA780) (MP)	-		C-MD-7411399-0-0	SPACER BACK PANEL	M			
	B-TC-KA780-0-1	CPU ASSY (KA780) (TC)	-		A-DC-7411881-0-0	DECAL A.W.T. REV. STATUS	M			
	E-UA-KA780-0-0	CPU ASSY (KA780)	E/M		K-WL-7013628-0-1	WIRE LIST CPU	E			
	A-PL-KA780-0-0	CPU ASSY (KA780) (PL)	E/M		A-WT-7013628-0	A.W.T. REV STATUS	E			
	B-MD-7418902-0-0	PLATE, STUD	M							
	B-MD-7418903-0-0	"U" BAR	M							
	C-MD-7418904-0-0	PLATE, SUPPORT	M							
	B-MD-7419483-0-0	COVER, BUS BAR	M							
	D-IC-11780-0-1	11780 SYSTEM POWER DIAGRAM	E/M	4	B-DD-H7100-0	POWER SUPPLY (H7100)	E/M			
	D-IC-11780-0-2	11780 SYSTEM INTERCONNECT DIAGRAM	E/M							
	D-IC-11780-0-3	11780 SUB SYSTEM INTERCONNECT	E/M							
	D-MU-KA780-0-2	KA780 MODULE UTILIZATION (CPU)	E							
	D-BD-KA780-0-3	CPU SYSTEM BLOCK DIAGRAM	E							
	D-FD-KA780-0-4	VAX AND CM MODE ENTRY POINTS	E	5	B-DD-M8237-0	T.R.S.	E/M			
	D-IA-7014530-0-0	CABLE, POWER (RED)	E/M							
	D-IA-7014249-0-0	CABLE, POWER (BLACK)	E/M							
	D-IA-7014212-0-0	CABLE, AC, DC LO	E/M							
	E-IA-7015073-0-0	HARNESS, -5V TERMINATOR	E/M							
	C-MD-7419458-0-0	COVER, C.P.U. BACKPLANE	M	6	B-DD-M8218-0	S.B.L.	E/M			
	E-AD-7014956-0-0	SUPPLY, UBA OPTION	E/M							
				7	B-DD-M8219-0	S.B.H.	F/M			
2	E-IA-7013713-0-0	CARD CAGE (CPU)	M							
	C-MD-7417930-0-0	MOUNTING BAR VERTICAL	M	8	B-DD-M8220-0	C.A.M.	E/M			
	C-MD-7417971-0-0	BRACKET BOTTOM REAR	M							
	B-MD-7417968-0-0	BRACKET CARD GUIDE	M							
	C-MD-7417972-0-0	BRACKET BOTTOM CARD GUIDE	M							
	C-MD-7417969-0-0	BRACKET TOP CARD GUIDE	M							
	C-MD-7417942-0-0	HANDLE, CARD CAGE	M	9	B-DD-M8221-0	C.D.M.	E/M			
	C-MD-7417970-0-0	BRACKET, TOP REAR	M							
	C-MD-7418194-0-0	STIFFENER	M							
	C-MD-7418181-0-0	STIFFENER, CORNER CARD CAGE	M							
				10	B-DD-M8222-0	T.B.M.	E/M			
3	E-IA-7013628-0-0	BACKPLANE ASSY (CPU)	E/M							
	E-MD-5012869-0-0	BOARD DRILL AND ETCH (CPU A,B,C)	E/M							
	E-MD-5012871-0-0	BOARD DRILL AND ETCH (CPU D,E,F)	E/M	11	B-DD-M8223-0	I.D.P.	E/M			
	D-PS-1214348-0-0	BUS BAR	M							
	D-MD-7417868-0-0	BAR, MOUNTING CPU	M							
	D-MD-7409259-0-0	SUPPORT LOGIC FRAME SIDE	M							
TYPE: E ELECTRICAL M MECHANICAL E/M ELECTRO/MECHANICAL				TITLE C.P.U ASSY (KA780)		SHEET 3 OF 4	SIZE B DD	CODE KA780-0	NUMBER KA780-0	REV. C

FIND NO.	DRAWING NO.	DESCRIPTION	TYPE	FIND NO.	DRAWING NO.	DESCRIPTION	TYPE		
				21	B-DD-M8238-0	W.C.S. (2K VERSION)	E /M		
12	B-DD-M8224-Ø	I.R.C.	E/M						
				22	B-DD-M8234-Ø	P.C.S.	E /M		
13	B-DD-M8225-Ø	D.B.P.	E/M						
				23	B-DD-M8235-Ø	U.S.C.	E/M		
14	B-DD-M8226-Ø	D.E.P.	E/M						
				24	B-DD-M8236-Ø	C.I.B.	E/M		
15	B-DD-M8227-Ø	D.D.P.	E/M						
				25	D-IA-7014103-0-0 E-MD-7418172-0-0	BLANK MODULE ASSY BLANK MODULE	M M		
16	B-DD-M8228-Ø	D.C.P.	E/M						
				26	B-DD-H71Ø1-Ø	H71Ø1 REGULATOR	E /M		
17	B-DD-M8229-Ø	D.A.P.	E/M						
				27	E-IA-7015073-0-0 A-DC-7409872-0-0	HARNESS -5V TERMINATOR POWER HARNESS DECAL	E/M M		
18	B-DD-M823Ø-Ø	C.E.H.	E/M						
19	B-DD-M8231-Ø	I.C.L.	E/M						
20	B-DD-M8232-Ø	C.L.K.	E/M						
TYPE: E ELECTRICAL M MECHANICAL E/M ELECTRO/MECHANICAL				TITLE C.P.U. ASSY (KA78Ø)		SHEET 4 OF 4	SIZE CODE B DD	NUMBER KA78Ø-Ø	REV* C





LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION	
					AA	AB
1	1	E-IA-7013713-0-0	7013713-00	CARD CAGE CPU	1	1
2	2	E-UA-H7100-A-0	H7100-A	11780 500 WATT SUPPLY: 5V 100A,1	1	-
3	3	E-UA-H7100-B-0	H7100-B	11780 500-WATT SUPPLY: 5V 100A,2	-	1
4	4	E-UA-M8237-0-0	M8237-00	TERMINATOR SILO	1	1
5	5	E-UA-M8218-0-0	M8218-00	SBL LOW BIT INTERFACE	1	1
6	6	E-UA-M8219-0-0	M8219-00	SBH CPU HIGH BITS INTERFACE	1	1
7	7	E-UA-M8220-0-0	M8220-00	CAM CPU CACHE ADAPTER MATRIX	1	1
8	8	E-UA-M8221-0-0	M8221-00	CDM CPU CACHE DATA MATRIX	1	1
9	9	E-UA-M8222-0-0	M8222-00	TBM CPU TRANSLATION BUFFER MATRI	1	1
10	10	E-UA-M8223-0-0	M8223-00	IRC CPU INSTRUCT DECODE&CLOCKS	1	1
11	11	E-UA-M8224-0-0	M8224-00	IDP CPU INTERUCTION DATA PATH	1	1
12	12	E-UA-M8225-0-0	M8225-00	DEP DATA PATH E	1	1
13	13	E-UA-M8226-0-0	M8226-00	DDP DATA PATH D	1	1
14	14	E-UA-M8227-0-0	M8227-00	DCP DATA PATH C	1	1
15	15	E-UA-M8228-0-0	M8228-00	P.C. DESIGN DATA BASE	1	1
16	16	E-UA-M8229-0-0	M8229-00	DAP DATA PATH A	1	1
17	17	E-UA-M8230-0-0	M8230-00	CPU CONDITION CODE	1	1
18	18	E-UA-M8231-0-0	M8231-00	CPU TRAPS AND INTERRUPTS CONTROL	1	1
19	19	E-UA-M8232-0-0	M8232-00	CLK CPU CLOCK	1	1
20	20	E-UA-M8238-0-0	M8238-00	KU780-A 2K WCS (WRITEABLE CONTRO	1	1
21	21	E-UA-M8234-0-0	M8234-00	KA780-A,PCS,PROM CONTROL STORE,4	1	1
22	22	E-UA-M8235-0-0	M8235-00	MICRO SEQUENCER CONTROL	1	1
23	23	E-UA-M8236-0-0	M8236-00	CIB CONSOLE INTERFACE	1	1
24	24	D-IA-7014103-0-0	7014103-00	BLANK MODULE ASSY	6	6
25	25	E-UA-H7111-A-0	H7111-A	POWER SUPPLY TOD 120V	REF	-
26	26	E-UA-H7111-B-0	H7111-B	POWER SUPPLY TOD 240V	-	REF
27	27	E-IA-7013628-0-0	7013628-00	BACKPLANE ASSY (CPU)	1	1
28	28	B-MD-7418902-0-0	7418902-00	STUD PLATE BUS BAR ADAPTER	6	6
29	29	B-MD-7418903-0-0	7418903-00	U-BAR	3	3
30	30	C-MD-7418904-0-0	7418904-00	PLATE, SLOTTED	1	1

REVISION HISTORY		BASIC PART NO: KA780		DRN: A. RUSZCZYK		DATE: 03-FEB-82		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: T. MCCULLOUGH		DATE: 03-FEB-82		TITLE PARTS LIST	
---	INITIAL	D	SECTION. VARIATION INDEX					CPU ASSY (KA780)	
			[A] AA,AB	DES.ENG.: E. ANTON		DATE: 03-FEB-82			
			[B]	RESP.ENG.: E. ANTON		DATE: 03-FEB-82		DOCUMENT NUMBER	
			[C]					SIZE CODE NUMBER REV	
			[D]	MFG.ENG.: R. GIRARD		DATE: 03-FEB-82		K PL KA780-0-DBP D	
			[E]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME: EDIT #	
			[F]	E-UA-KA780-0-0				Z3620D.PLS 8	
"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT (C) 1982. DIGITAL EQUIPMENT CORPORATION"									

LINE ITEM		DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QUANTITY PER VARIATION	
					AA	AB
31	31	B-MD-7419483-0-0	7419483-00	COVER BUS BAR CPU	1	1
32	32		9006073-01	SCREW,PAN,PHIL 10-32X 1/2 SS	20	20
33	33		9007906-00	WASHER,LOCK,SPLIT .33400 X .200I	20	20
34	34		1212405-00	CARD GUIDE,NYLON	30	30
35	35		1212405-01	CARD GUIDE,NYLON	28	28
36	36		1211630-00	CARD GUIDE	10	10
37	37		9006610-00	NUT,CAP , 10-32 X7/16AF REL	20	20
38	38		9006565-00	NUT,KEP 10-32X 3/8 AF	24	24
39	39		9008032-01	SCREW,PAN,PHIL 4-40X 3/16 SS	12	12
40	40		9006655-00	WASHER, FLAT, .312 O.D. X .125 I	12	12
41	41		9006043-01	SCREW,PAN,PHIL 8-32X1 SS	6	6
42	42		9006660-00	WASHER, FLAT, .375 O.D. X .187 I	6	6
43	43		9006563-00	NUT,KEP 8-32X 11/13AF	6	6
44	44		3613281-05	LABEL,ADHESIVE BACK FOR BA11-K	1	1
45	45	D-IC-11780-0-3		11780 SUB SYSTEM INTERCONNECT	REF	REF
46	46	D-IC-11780-0-2		11780 SYSTEM INTERCONNECT DIAGRA	REF	REF
47	47	D-IC-11780-0-1		11780 SYSTEM POWER DIAGRAM	REF	REF
48	48	D-MU-KA780-0-2		KA780 MODULE UTILIZATION	REF	REF
49	49	D-IA-7014530-0-0	7014530-1A	CABLE POWER RED	2	2
50	50	D-IA-7014530-0-0	7014530-1E	CABLE POWER RED	4	4
51	51	D-IA-7014249-0-0	7014249-1C	CABLE POWER	2	2
52	52	D-IA-7014249-0-0	7014249-1J	CABLE POWER	4	4
53	53	D-IA-7014249-0-0	7014249-0L	CABLE POWER BLACK	1	1
54	54	D-IA-7014212-0-0	7014212-0M	CABLE AC,DC,LOW	2	2
55	55	A-PS-1214314-0-0	1214314-00	CONN 2POS JUMPER	12	12
56	56	BLANK		*** THIS ITEM IS NOT USED ***	-	-
57	57	E-IA-7015073-0-0	7015073-00	HARNESS MINUS 5V TERMINATOR	1	1
58	58	D-IA-7014212-0-0	7014212-2M	CABLE AC DC LOW	2	2
59	59	C-MD-7419458-0-0	7419458-00	COVER, C.P.U. BACKPLANE	1	1
60	60		3615087-02	LABEL,"DANGER-HIGH CURRENT"	1	1
61	61	E-AD-7014956-0-0	7014956-00	UDA OPTION SUPPLY	1	-
62	62	E-AD-7014956-0-0	7014956-01	UBA OPTION SUPPLY 50HZ	-	1

63 NOTE: CPU'S WITHOUT USER CONTROL STORE PREREQUISITE MAY USE 2 M8233'S IN PLACE OF 1 M8238.(2K USERS ONLY)

D	I	G	I	T	A	L	TITLE	SECTION A	OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							CPU ASSY (KA780)			K	PL	KA780-0-DBP	D

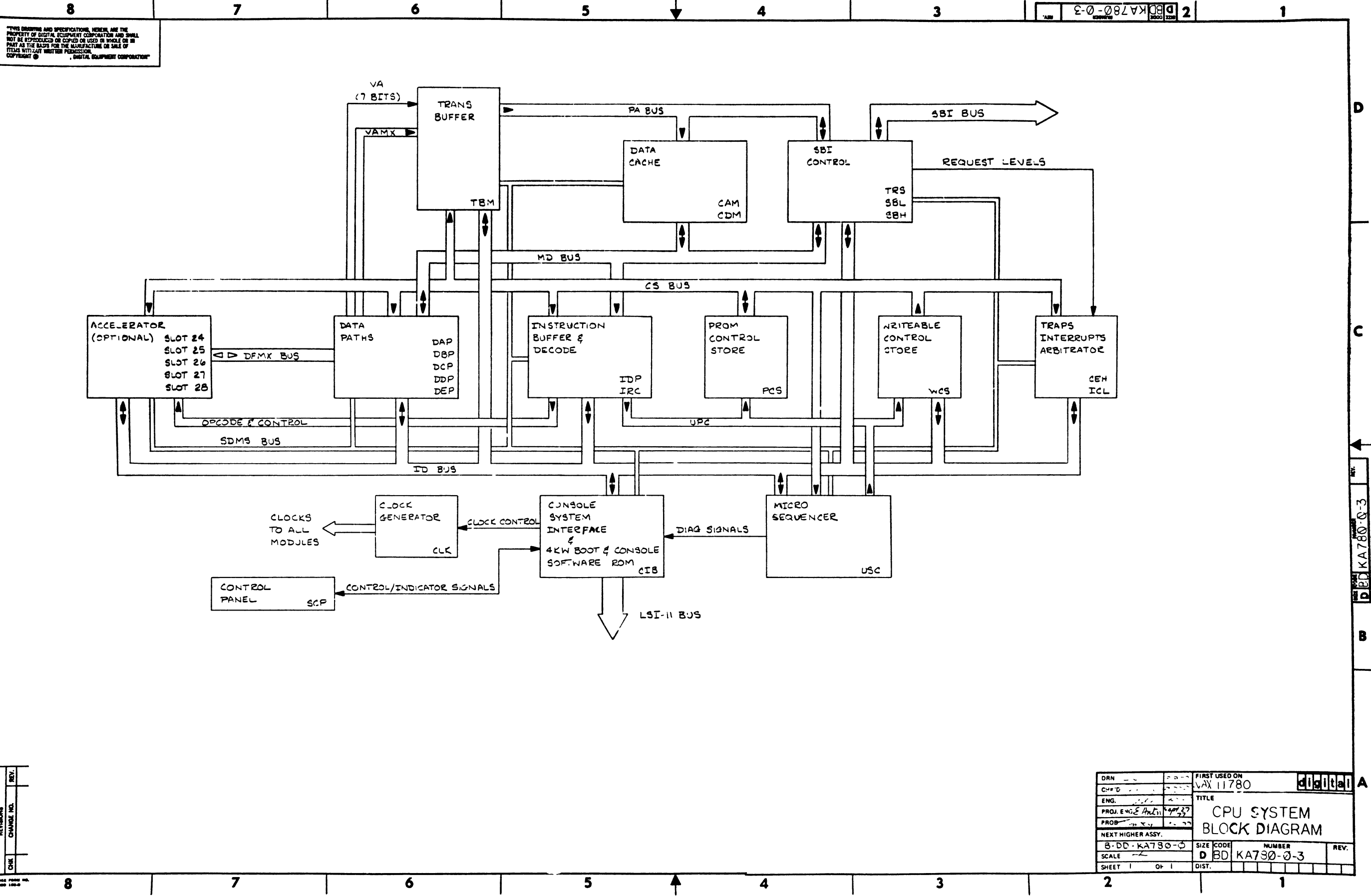
"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 - DIGITAL EQUIPMENT CORPORATION"

NOTE * DESIGNATES OPTION
SLOTS 17, 19 & 21 RESERVED FOR POWER BUSSING
1. BASIC CPU HAS EITHER 2 M8233 MODULES INSTALLED IN SLOTS 18 AND 20 OR 1 M8238 INSTALLED IN SLOT 20. IF KE780 AND/OR KU780 OPTION(S) ARE INSTALLED, SLOTS 18 AND 20 MUST HAVE M8238 MODULES INSTALLED.

D	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
	M8237 TRS	M8218 SBL	M8219 SBH	M8220 CAM	M8221 CDM	M8222 TBM	M8223 IDP	M8224 IRC	M8225 DBP	M8226 DEP	M8227 DDP	M8228 DCP	M8229 DAP	M8230 CEH	M8231 ICL	M8232 CLK		M8233 OR M8238 * WCS OR PCS SEE NOTE 1		M8233 OR M8238 SEE NOTE 1		M8234 PCS	M8235 USC	M8236 FNM *	M8237 FMH *	M8238 FML *	M8239 FAD *	M8240 FCT *	M8241 CIB
A																													
B																													
C																													
D																													
E																													
F																													

DRN. AFM	1-1	FIRST USED ON	VAX 11/780	digital
CHK'D	1-1	TITLE	MODULE UTILIZATION CPU	
ENG.	1-1	PROJ. ENG.	S. Antin	
PROD.	1-1	DATE	1/1/77	
NEXT HIGHER ASSY.				
B-DD-KA780-0		SIZE CODE	D MU KA780-0-2	REV.
SCALE		NUMBER		A
SHEET 1 OF 1		DIST.		

REV.	A
CHANGE NO.	1
DATE	8-1-78
BY	J. BROWN

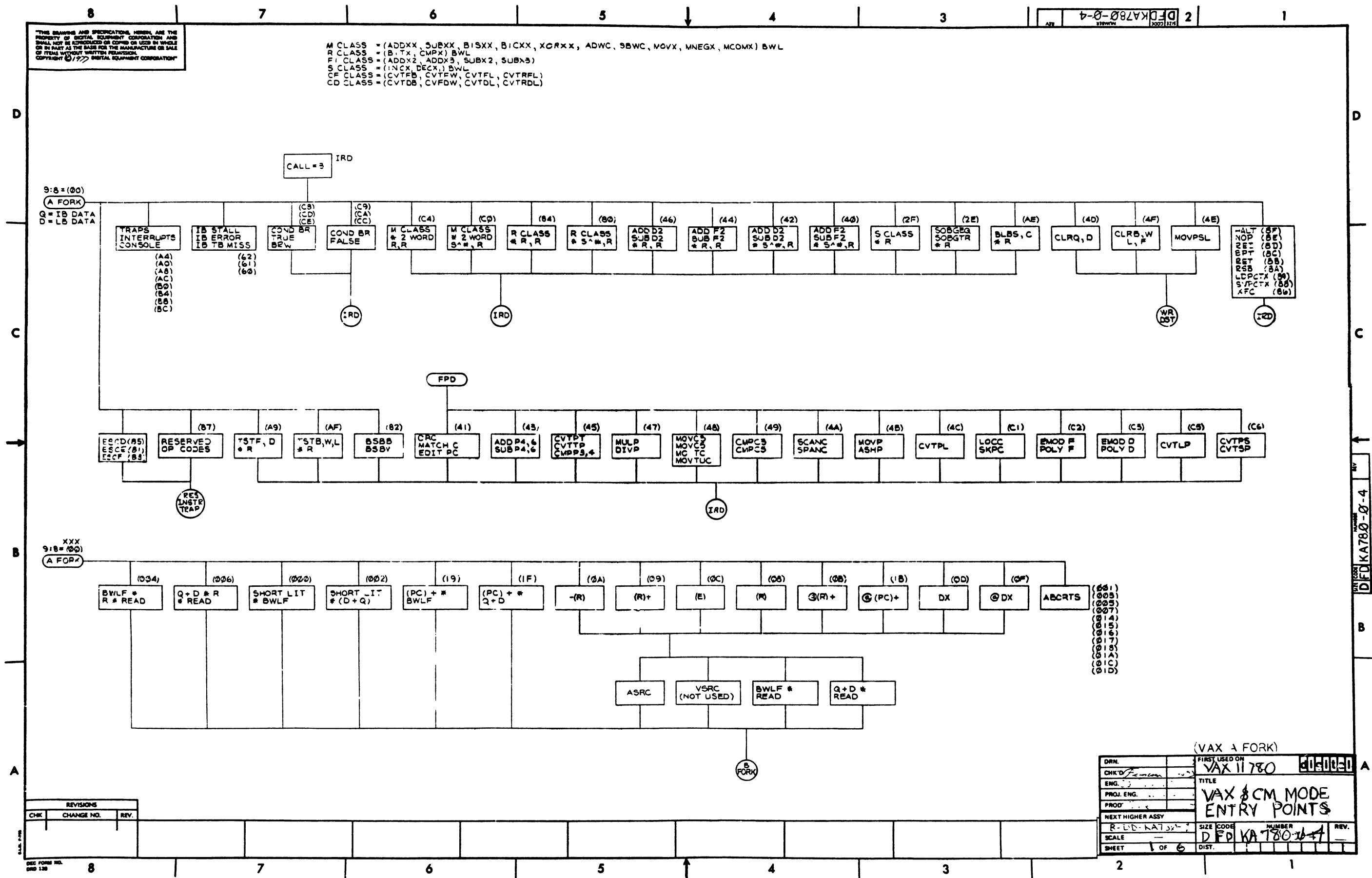


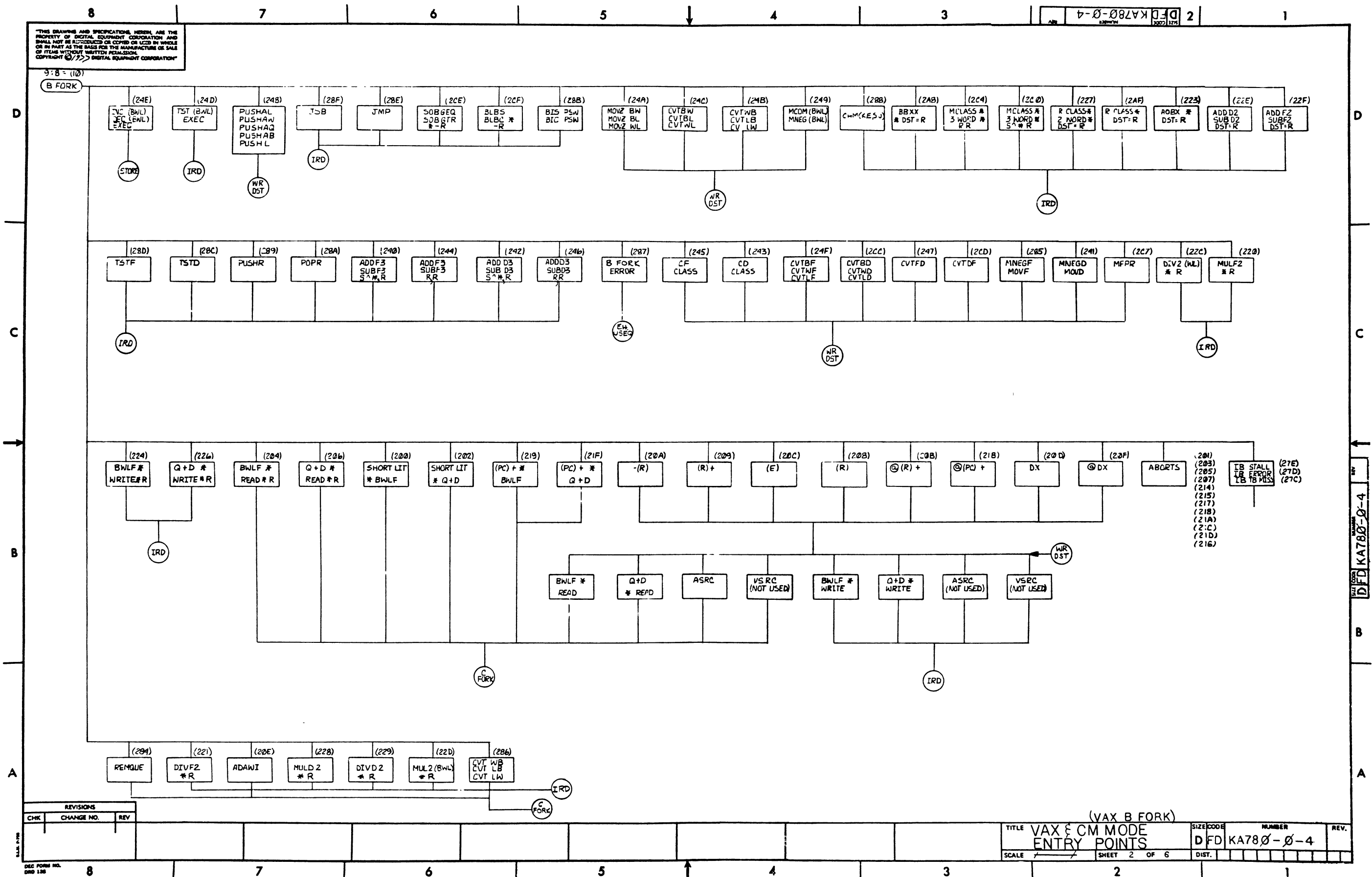
REV.	CHANGE NO.
1	1

DATE: 11/1/80

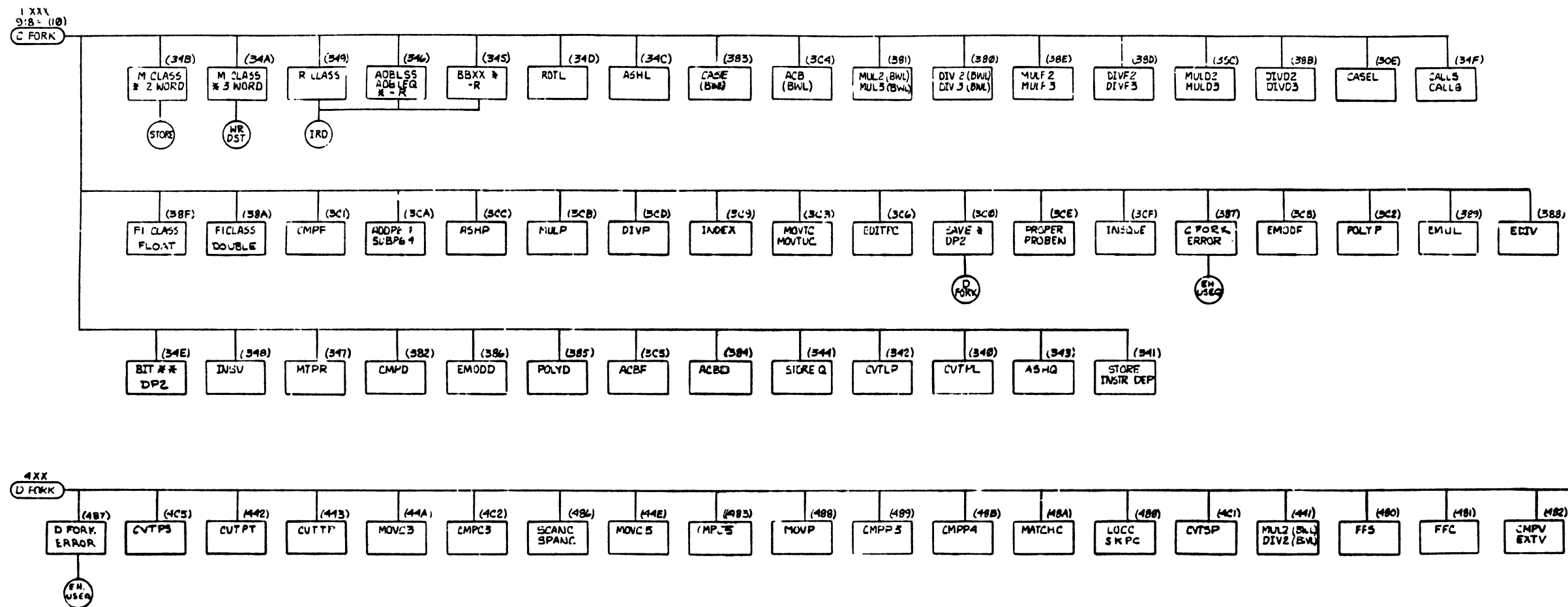
200 1000 1000

DRN	11/1/80	FIRST USED ON	VAX 11/780	digital
CHK'D	11/1/80	TITLE	CPU SYSTEM BLOCK DIAGRAM	
ENG.	11/1/80	PROJ. ENG.	11/1/80	
PROB.	11/1/80	NEXT HIGHER ASSY.	8-DD-KA780-0	
SCALE	1	SIZE	CODE	NUMBER
SHEET	1	D	BD	KA780-0-3
		DIST.		



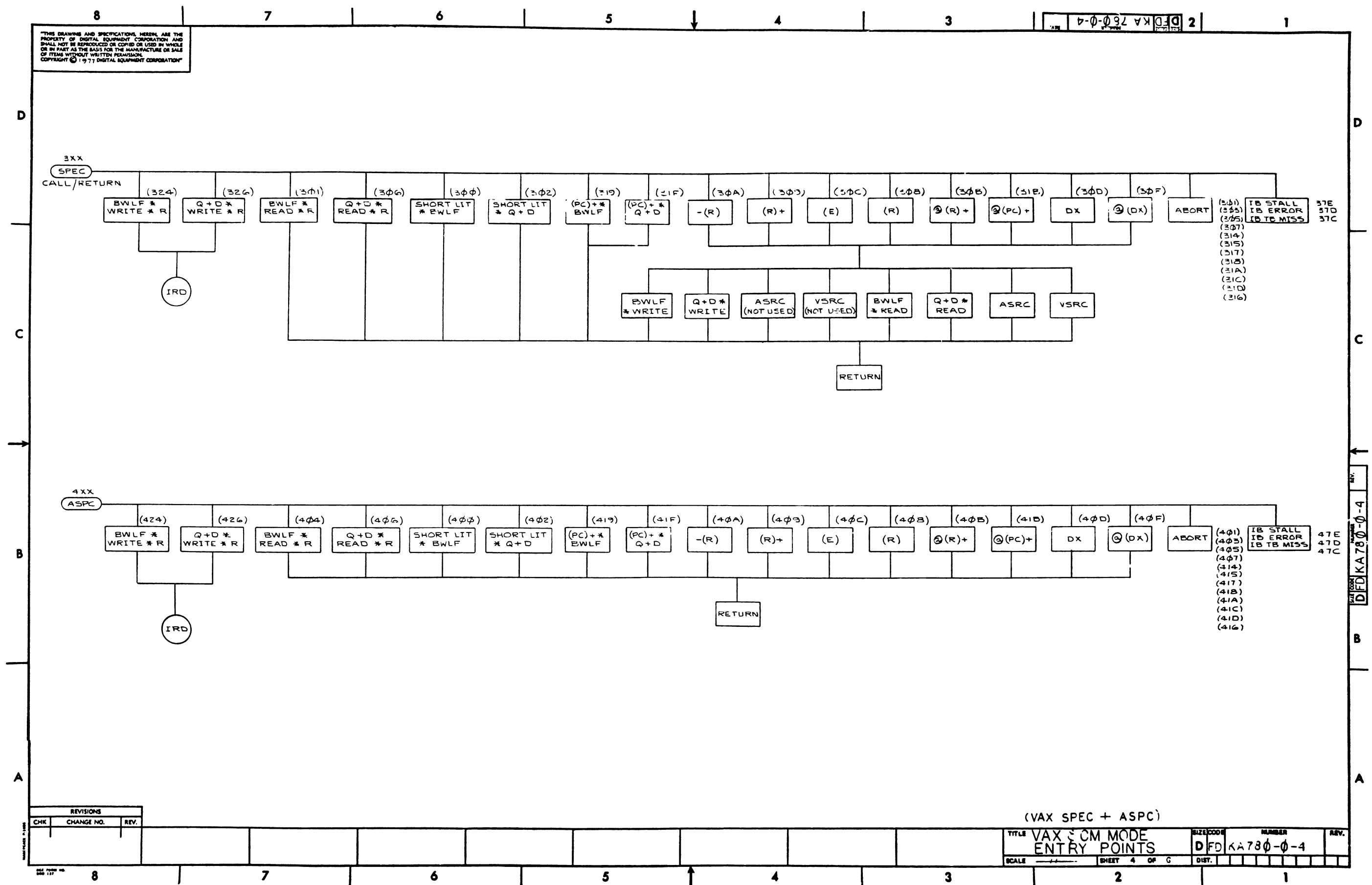


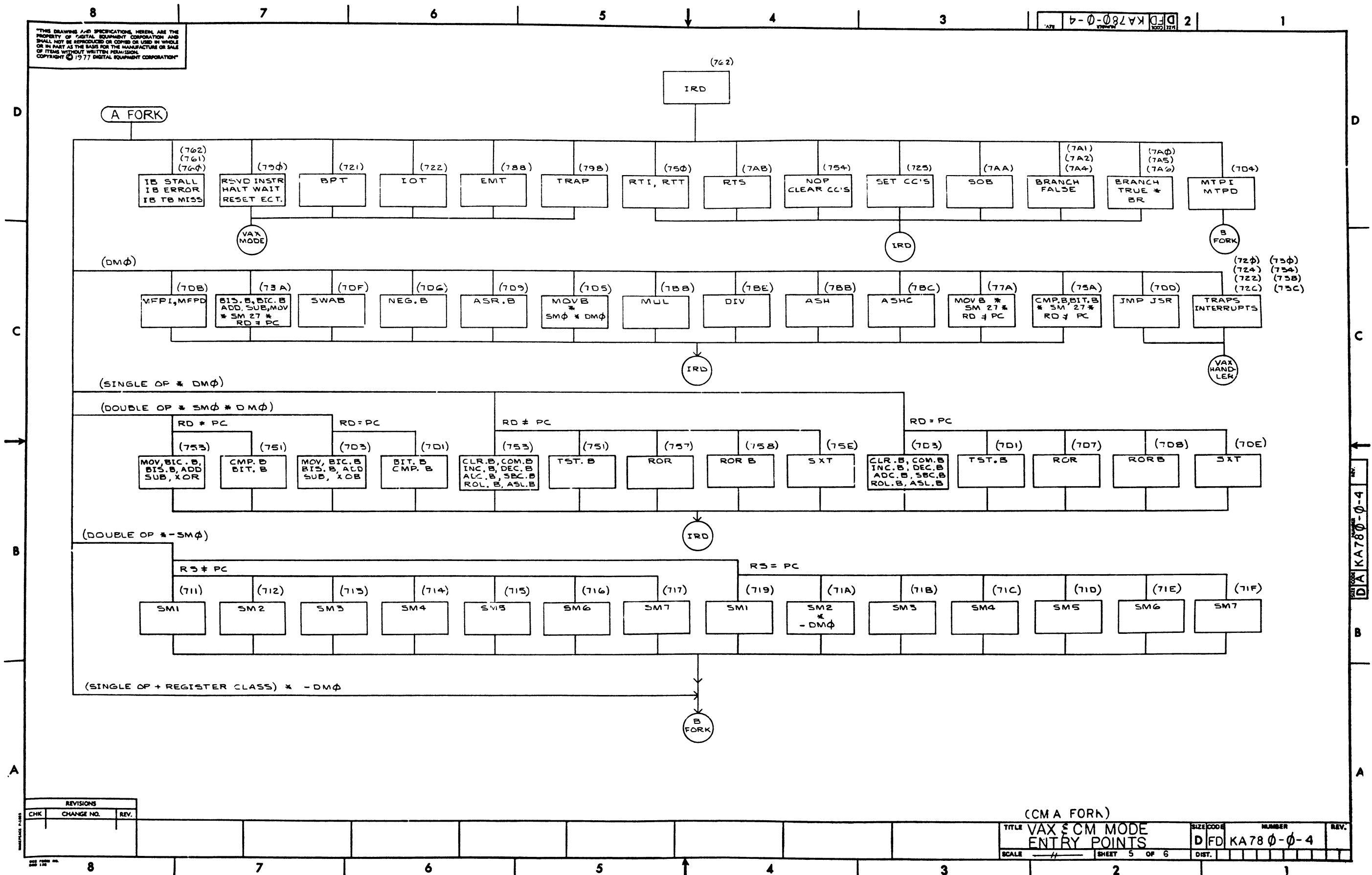
```
* SAVE DP2 = CVTSP, CVTSP, CVTPT, CVTTP, MOVCS, CMPC3, SCANC, MOVCS, CMPC5, MOVPS, CMPP3, CMPP4, KATC4C, LOCL, SKPC, LRL, ASHP
** BIT DP2 = FFS, FFC, CMPV, CMPZV, EXTV, EXTZV
```

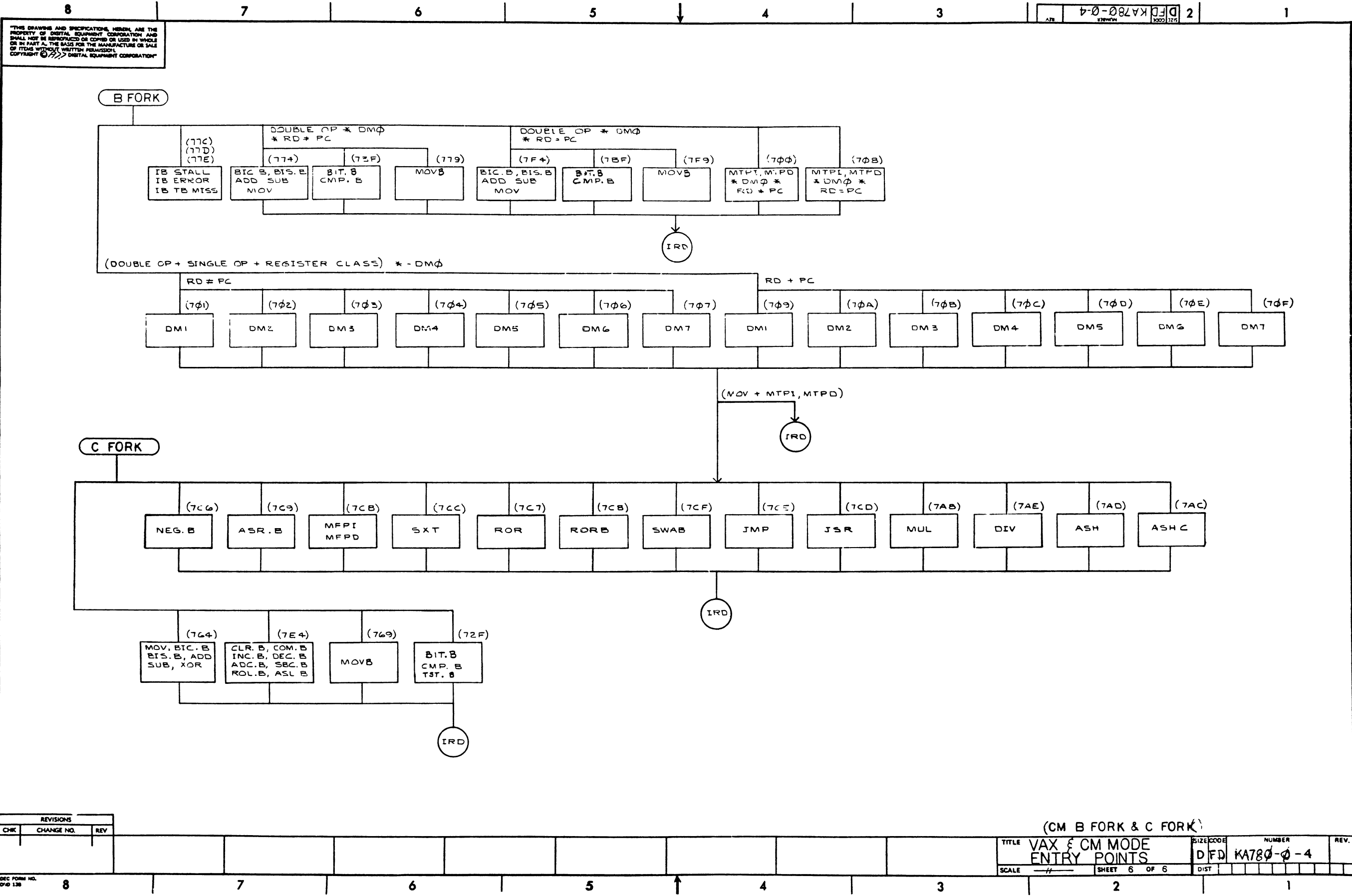


REVISIONS		
CHK	CHANGE NO.	REV.

																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												</
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	----

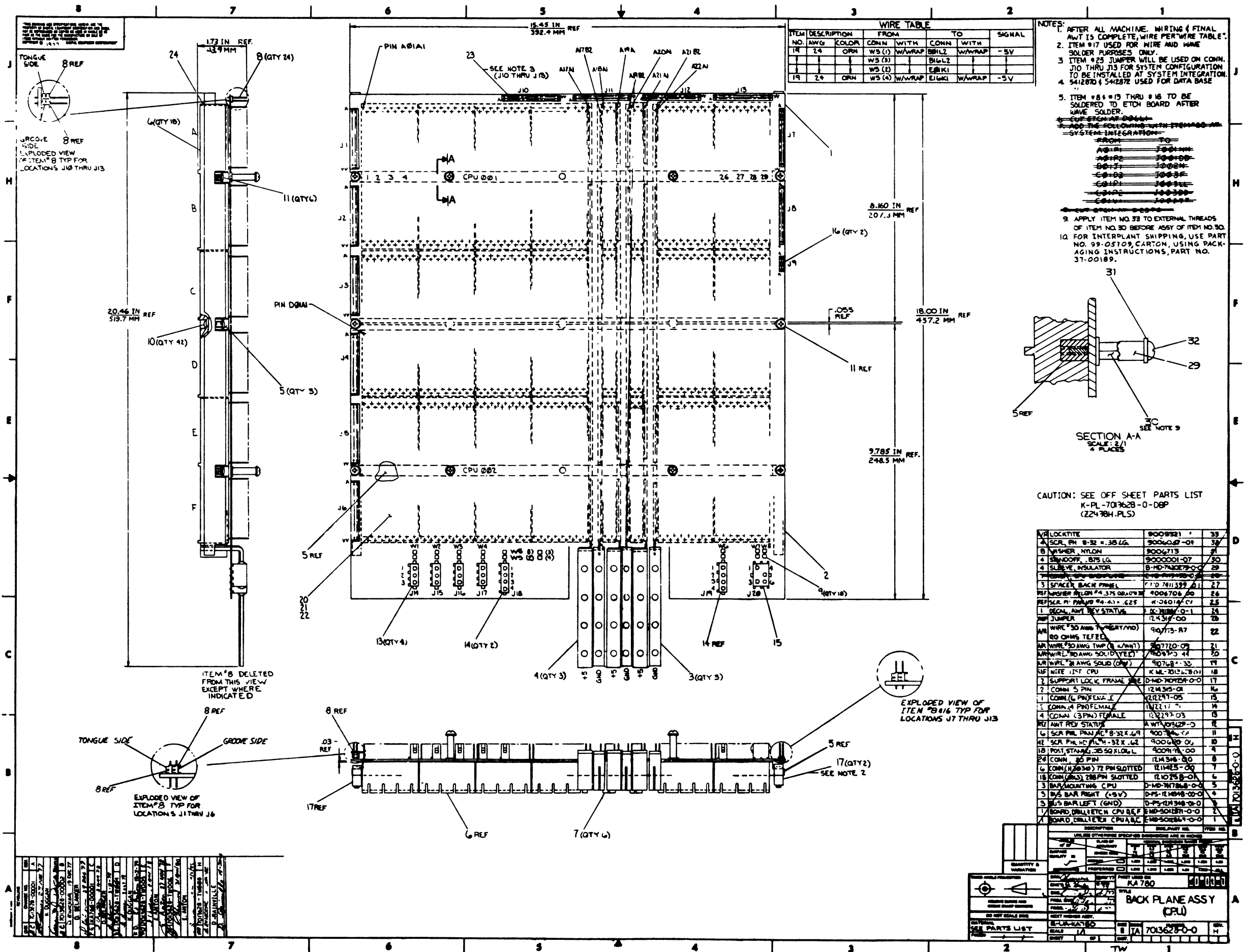




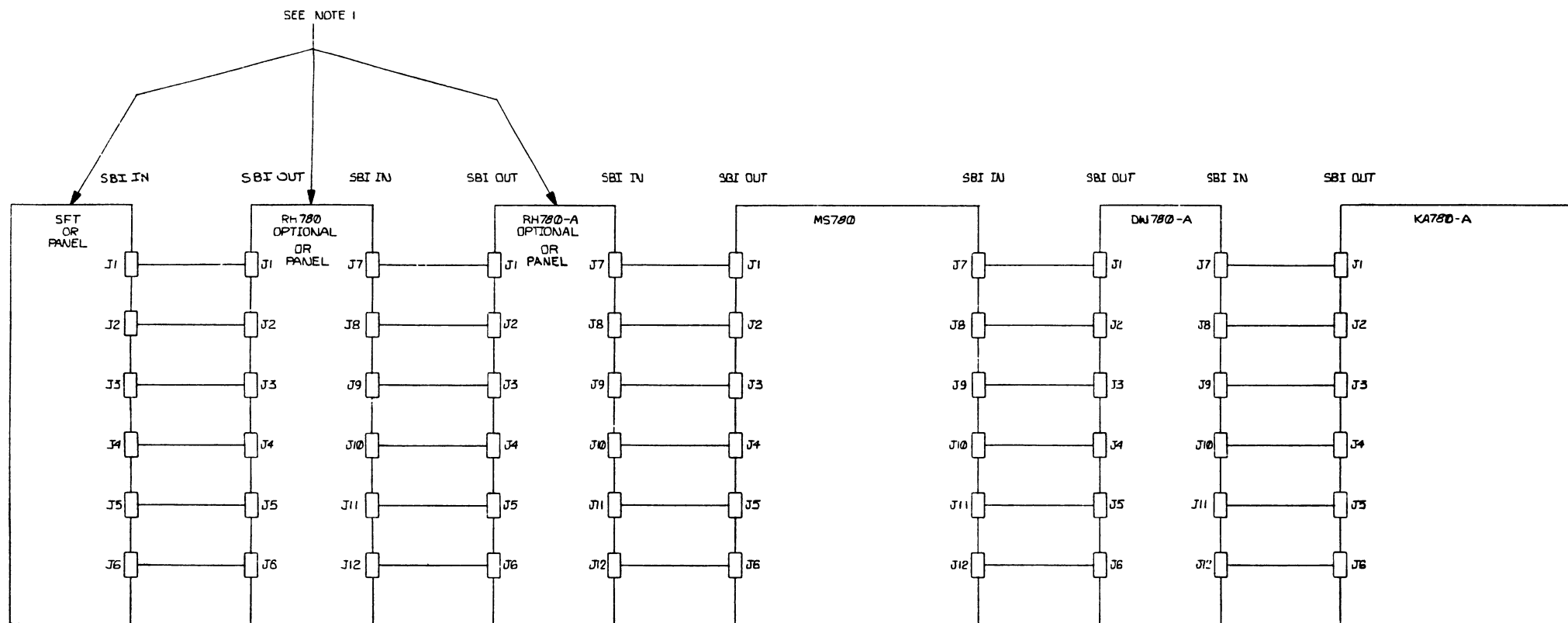


REVISIONS		
CHK	CHANGE NO.	REV

DEC FORM NO.
D-10 138



THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION. COPYRIGHT © 1977



NOTES:

- 11780-C SYSTEM CONSISTS OF
 - A. KA780-A
 - B. DW780-A
 - C. MS780
 - D. SFT (# M9043)
 - E. 2 DUMMY PANELS (# 7418973)
- 11780-D SYSTEM CONSISTS OF
 - A. KA780-A
 - B. DW780-A
 - C. MS780
 - D. RH780-A
 - E. RH780
 - F. SFT
- SBI CABLE CONNECTIONS TO SFT FROM ADJACENT BACKPLANE ARE ALWAYS 1700087-1 (QUANTITY 6) OTHER SBI CABLES ARE 1700087-0

(BACKPLANE SBI INTERCONNECT)

DRN. E. TAYLOR	DATE 1/2/77	FIRST USED ON 11780	digital
CHK'D. R. GRIFFIN	DATE 1/2/77	TITLE 11780 SUB SYSTEM INTERCONN.	
ENG'D. A. L. L.	DATE 1/2/77		
PROL. ENG. J. L. L.	DATE 1/2/77		
PROD. R. L. L.	DATE 1/2/77		
NEXT HIGHER ASSY.			
E-55-11780-0			
SCALE	SIZE CODE	NUMBER	REV
1	D	11780-0-3	8
SHEET 1 OF 8			
DIST.			

TW 1

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1979, DIGITAL EQUIPMENT CORPORATION

SEE NOTE 1

MS780

DW780-A

KA780-A

SBI IN SBI OUT SBI IN SBI OUT

J1 J2 J3 J4 J5 J6

J7 J8 J9 J10 J11 J12

J1 J2 J3 J4 J5 J6

J1 J2 J3 J4 J5 J6

NOTES:

- 11780 CUCV SYSTEM CONSISTS OF
 - KA780-A
 - DW780-A
 - MS780
 - TRM (M9040) MOUNTED IN SLOT # 1 OF MS780 BACKPLANE.

THIS SHEET FOR CU+CV VARIATIONS ONLY

(BACKPLANE S.B.I. INTERCONNECT)

DRN	RO LANNAN	9/17/79	FIRST USED ON	11780
CHK'D			TITLE	11780 SUB SYSTEM INTERCONN.
ENG.			SIZE	CODE
PROJ. ENG.			D	IC
PROD.			NUMBER	REV
NEXT HIGHER ASSY.			11780-0-3	B
SCALE			DIST.	
SHEET	2	OF 8		

Tw 1

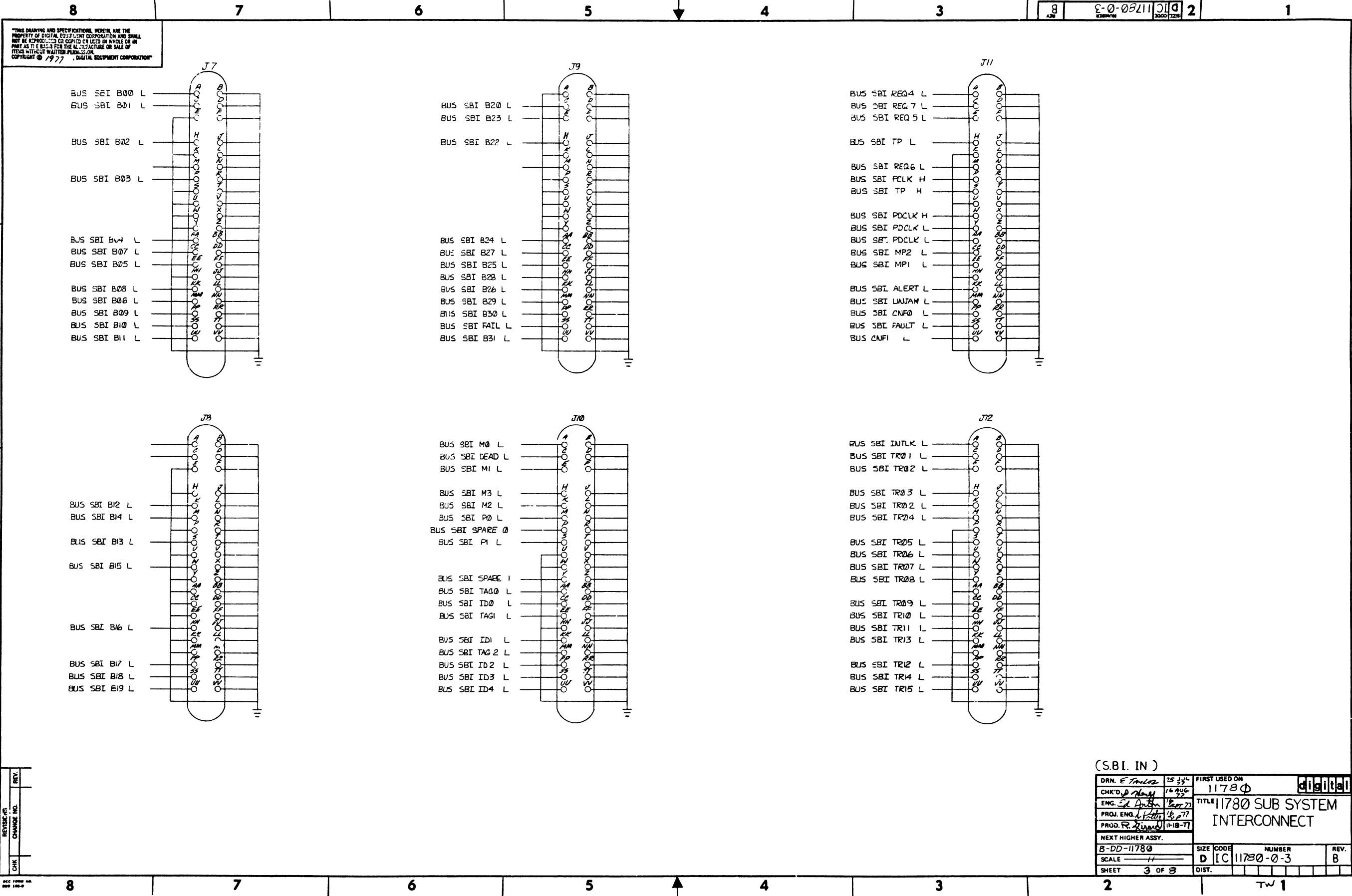
1) 11780 CUCV SYSTEM CONSISTS OF

- A. KA780 A
- B. DW780 A
- C. M5780
- D. TRM(M9040) MOUNTED IN SLOT# 1 OF M5780 BACKPLANE.

THIS SHEET FOR
CU+CV VARIATIONS
ONLY

DRN <u>PG LENNAN</u> <u>9/17/79</u>		FIRST USED ON <u>11780</u>		SECRET		A
CHK'D		TITLE <u>11780 SUB SYSTEM INTERCONN.</u>				
ENG.						
PROJ. ENG.						
PROD.						
NEXT HIGHER ASSY.						
<u>Q-DD-11780-0</u>		SIZE	CODE	NUMBER	REV	
<u>SCALE</u> <u>1/2</u>		<u>D</u>	<u>IC</u>	<u>11780-0-3</u>	<u>B</u>	
SHEET <u>2</u> OF <u>8</u>		DIST.				

2 TW 1

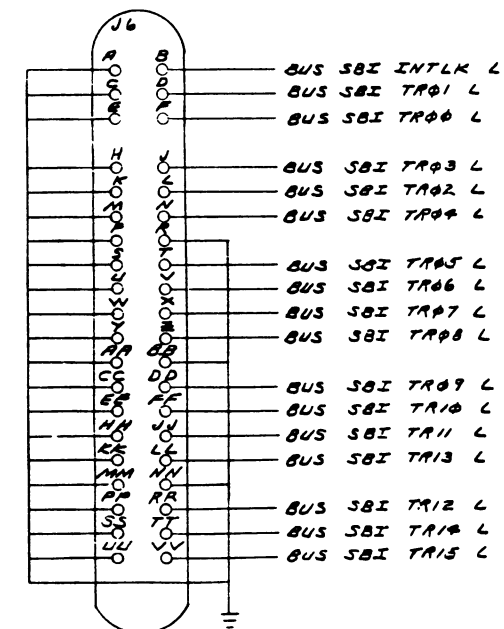
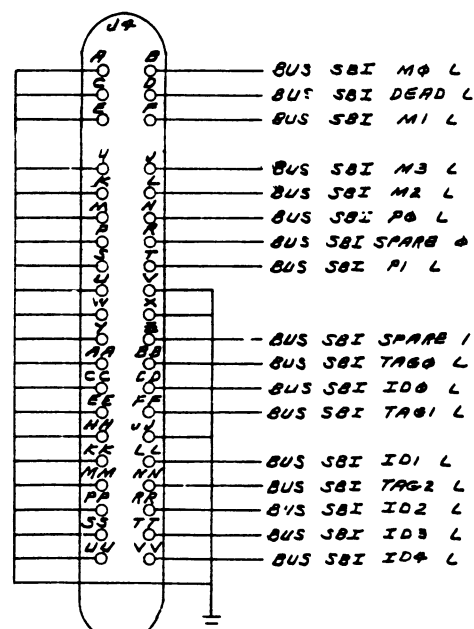
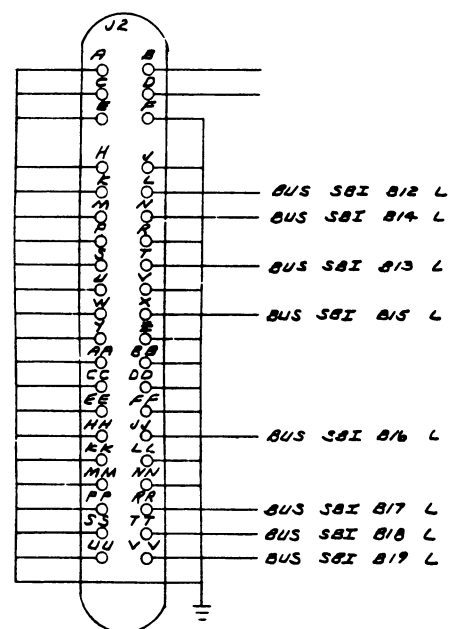
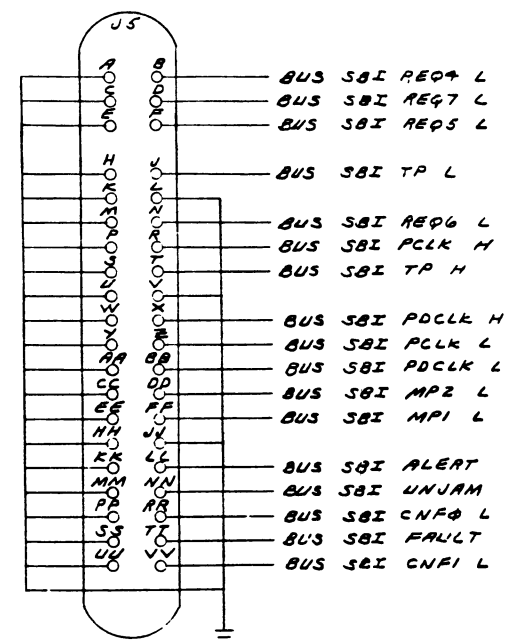
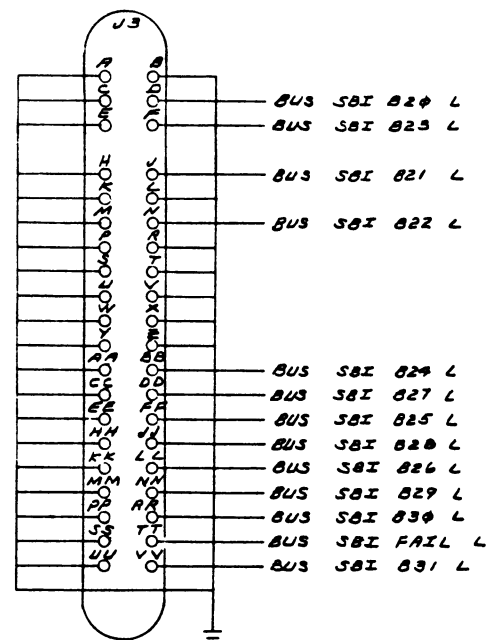
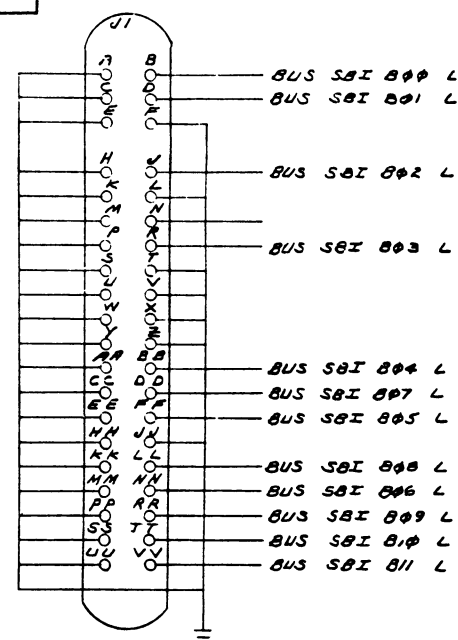


(S.B.I. IN)

DRN. E. T. 11780	25 JUL 77	FIRST USED ON	11780	digital
CHK'D. D. H. 11780	16 AUG 77	TITLE	11780 SUB SYSTEM INTERCONNECT	
ENG. S. J. 11780	18 SEP 77	PROJ. ENG. L. 11780	18 SEP 77	
PROD. R. 11780	11-18-77	NEXT HIGHER ASSY.		
B-DD-11780		SIZE CODE	NUMBER	REV.
SCALE 1/1		D	IC 11780-0-3	B
SHEET 3 OF 3		DIST.		

TW 1

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION



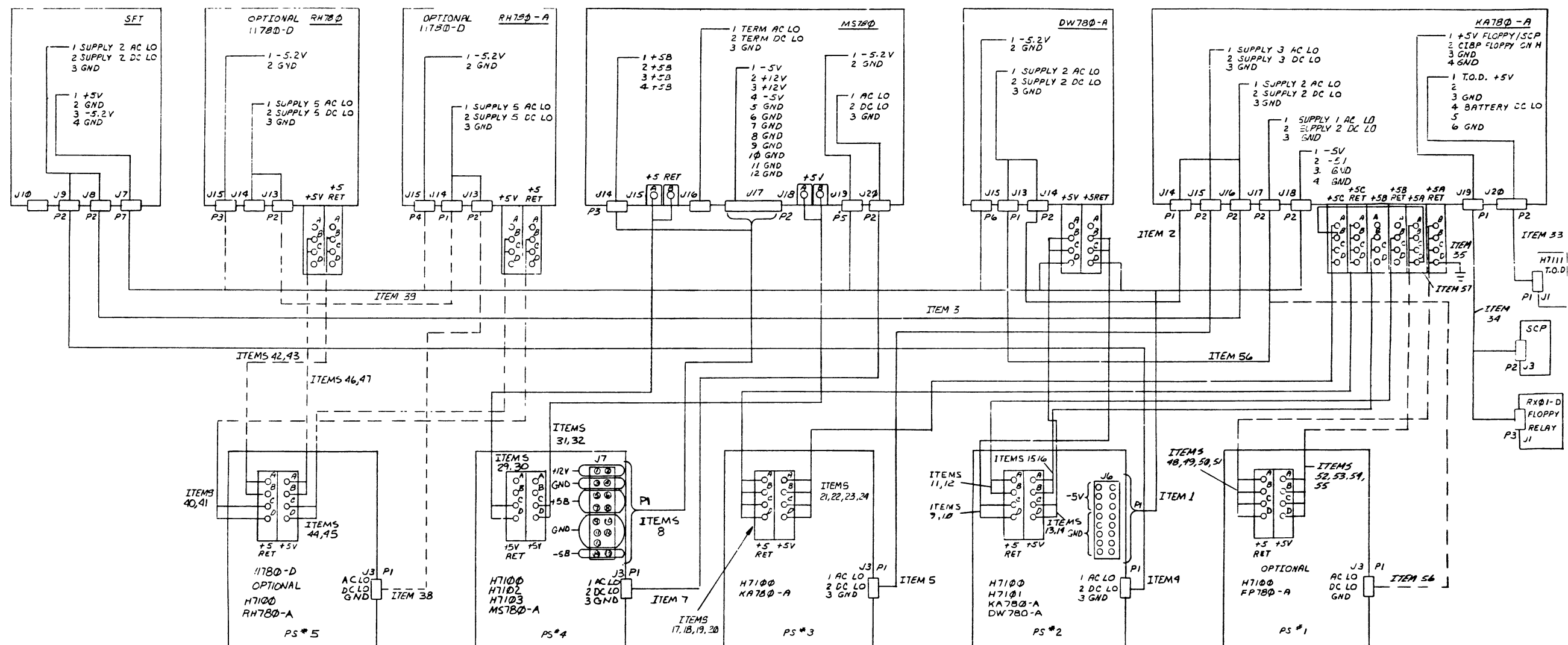
(S B.I. OUT)

DRAWN BY CHK'D BY ENG. BY PROJ. ENG. PROD. BY	<i>E. MacP</i> <i>D. Delaney</i> <i>A. Smith</i> <i>A. Hays</i> <i>R. Givens</i>	DATE 2 Jun 77 190677 Apr 77 May 77 11-18-77	FIRST USED ON 11780	DIGITAL
TITLE			11780 SUB SYSTEM INTERCONNECT	
NEXT HIGHER ASSY.				
SCALE	$\frac{1}{2} = 1$		SIZE D	CODE IC
SHEET	4 OF 8		DIST.	NUMBER 11780-0-3
				REV. P

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION

NOTES:

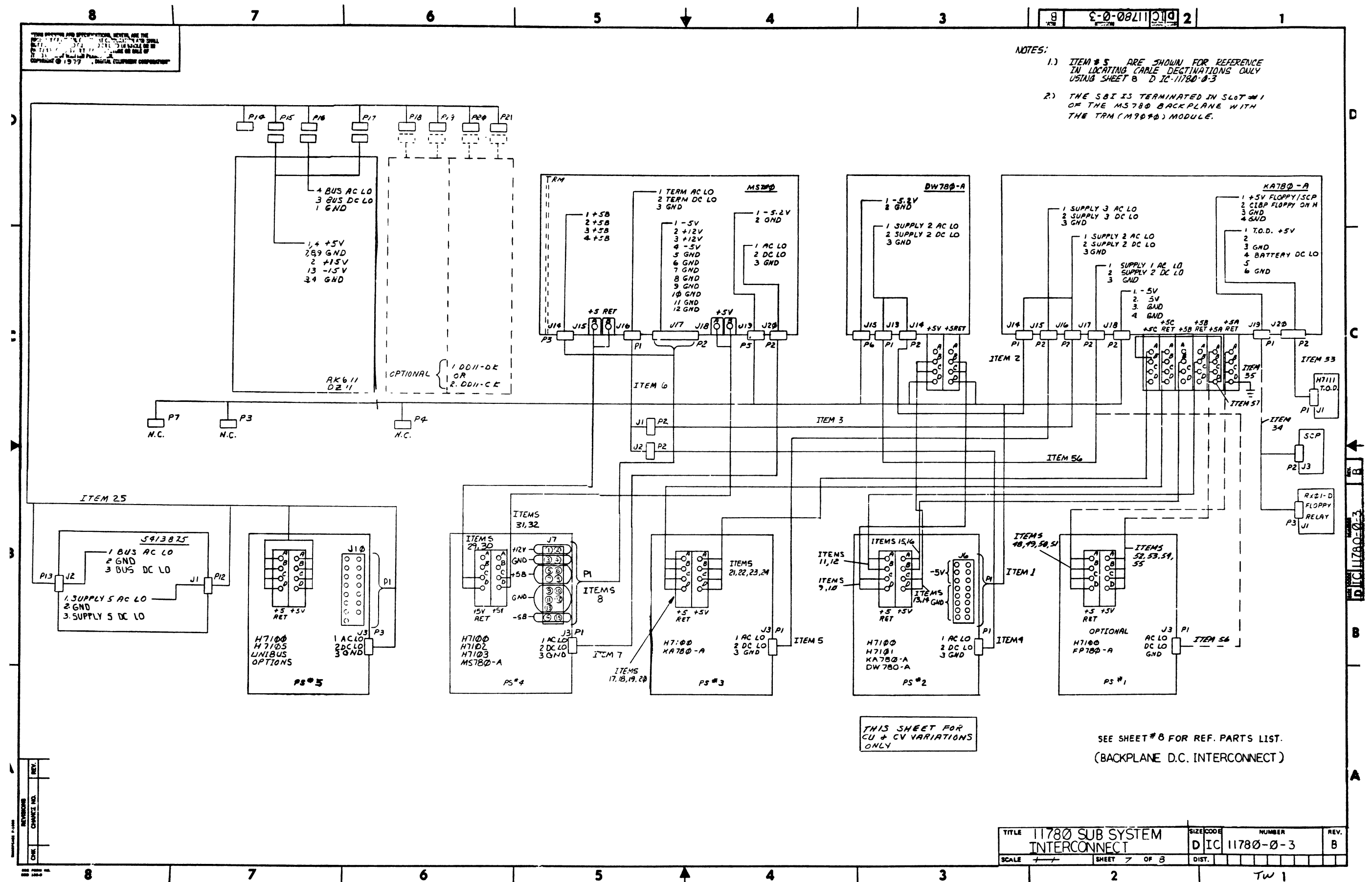
1) ITEM # 5 ARE SHOWN FOR REFERENCE
IN LOCATING CABLE DESTINATIONS ONLY
USING SHEET 6 D IC-11780-03

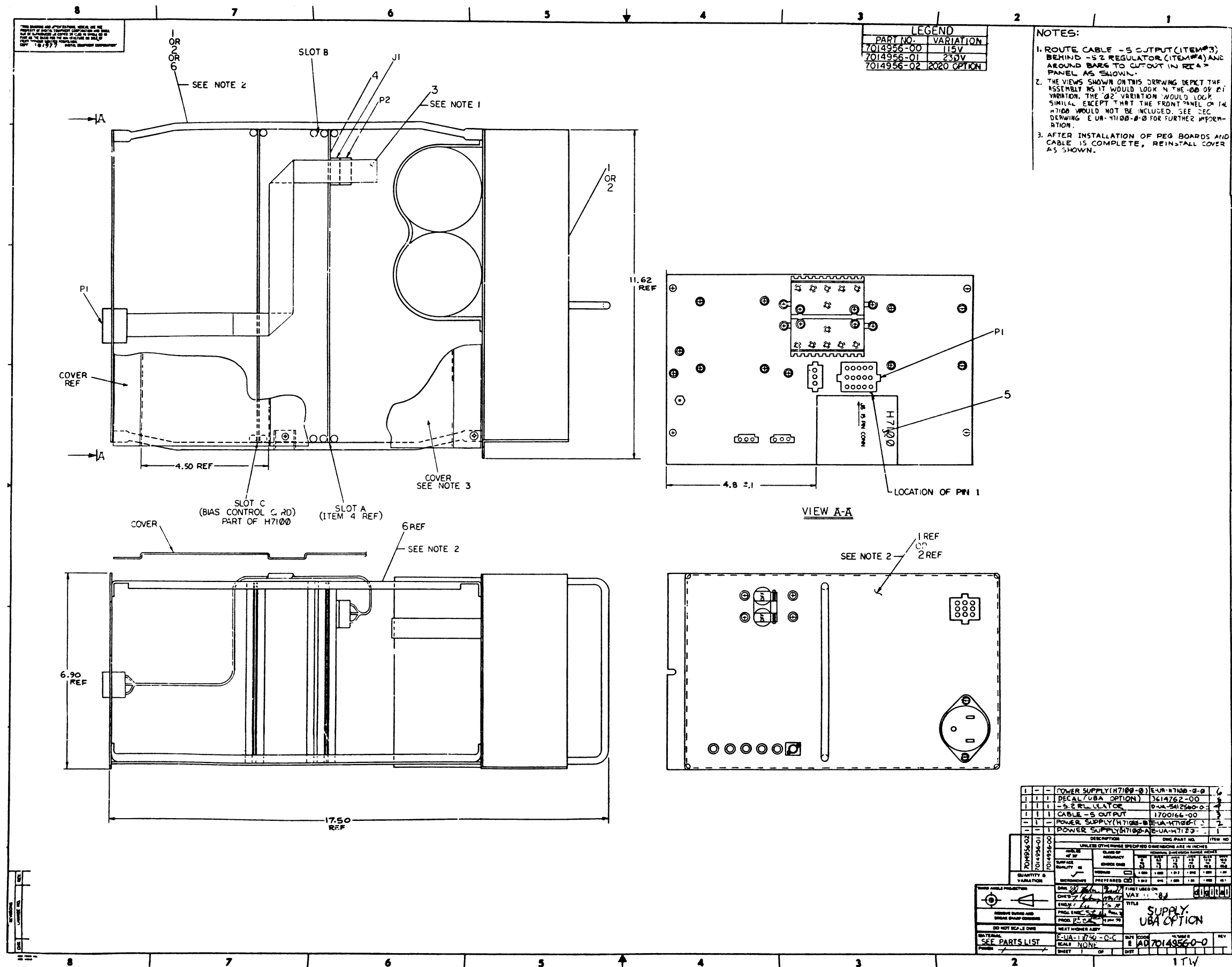


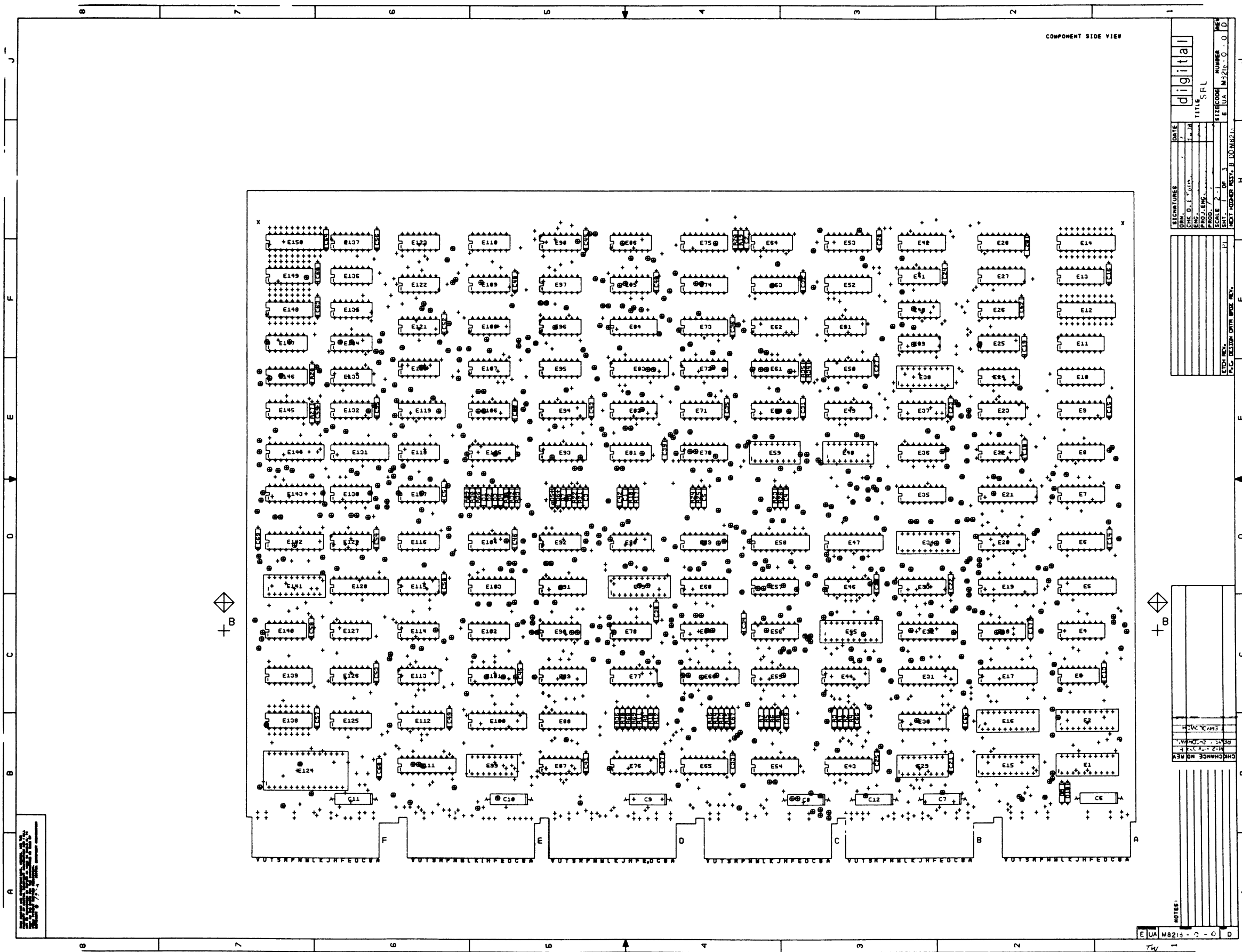
SEE SHEET #6 FOR REF. PARTS LIST.

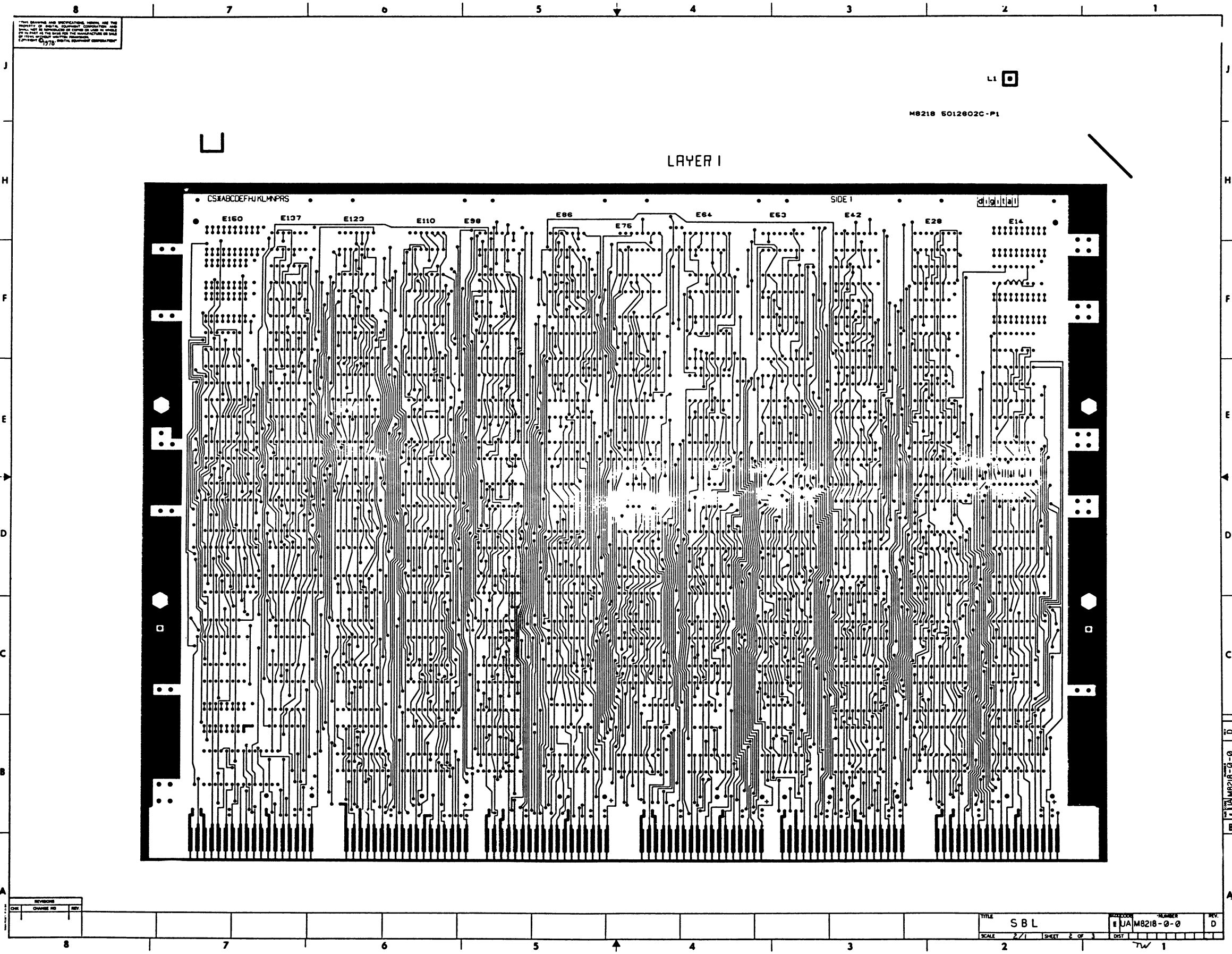
(BACKPLANE D.C. INTERCONNECT)

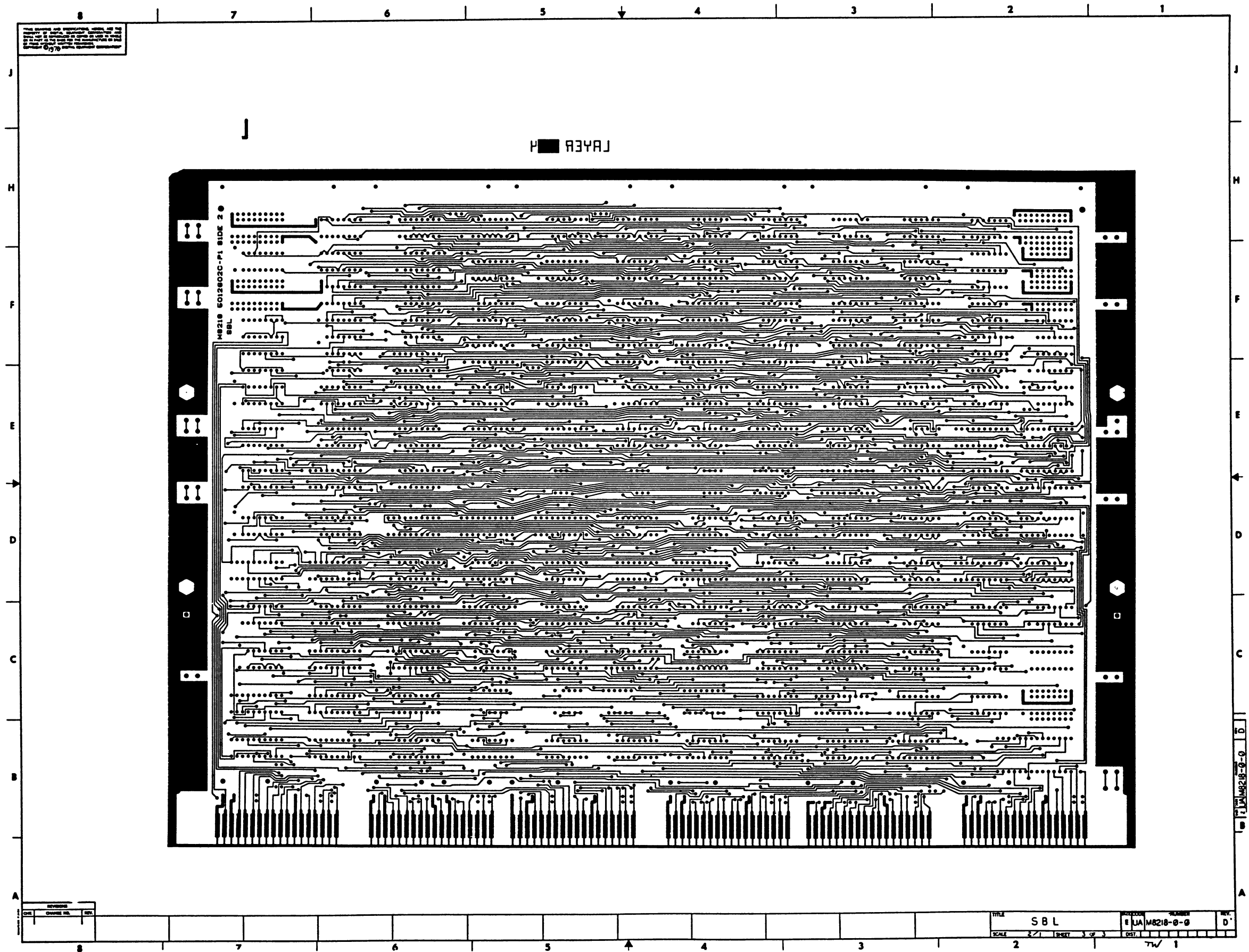
DRN. <i>E. TWICR</i>	25 JUL 77	FIRST USED ON	digital
CHKD <i>D. HANCO</i>	1 AUG 77	11780	
ENG. <i>Ed. Arden</i>	16 OCT 77	TITLE	11780 SUB SYSTEM INTERCONNECT
PROJ. ENG. <i>W. H. HANCO</i>	23 JUL 77		
PROD. <i>R. HANCO</i>	11-10-77		
NEXT HIGHER ASSY.			
SCALE	— +	SIZE	CODE
SHEET	5 OF 8	D	FC
			NUMBER
			11780-03
		DIST.	REV.
			5











LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-MD-5012602-0-0	5012602-00	M8218	1	
2	2		1910532-00	74S00 NAND GATE-QUAD 2INS	8	E39,E51,E64,E102,E107,E118,
					CONT	E137,E140
3	3		1912388-00	74S02 NOR GATE-QUAD 2IN,POS	5	E25,E81,E95,E117,E121
4	4		1910534-00	74S04 INVERTER GATE-HEX 1IN	9	E26,E41,F104,E113,E123,E125,
					CONT	E130,E132,E135
5	5		1912389-00	74S08 AND GATE-QUAD 2IN,POS	14	4 E96,E98,E106,E126
6	6		1910536-00	74S10 NAND GATE-TRIPLE 3IN	6	E40,E85,E109,E114,E136,E145
7	7		1910537-00	74S11 AND GATE-TRIPLE 3INPUT	2	E97,E120
8	8		1910539-00	74S20 NAND GATE-DUAL 4INPUT	1	E127
9	9		1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	2	E24,E71
10	10		1910541-00	74S40 NAND GATE-DUAL 4IN,BUFFER	16	1 E147
11	11		1910542-00	74S64 A-O-I XPDR GATE,4-2-3-2	14	12 E86,E90,E92,E100,E110,E115,
					CONT	E133,E116,E122,E129,E134,E146
12	12		1910544-00	74S74 FF-D DUAL,EDGE TRIGGER	2	E78,E80
13	13		1910545-00	74S112 FF-JK DUAL,EDGE TRIGGER	7	E61,E72,E73,E82,E94,E105,E93
14	14		1911983-00	74S133 NAND GATE-POSITIVE 13IN	2	E69,E77
15	15		1911675-00	74S138 DECODER-THREE INPUT	1	E112
16	16		1912845-00	LS153 MUX 1 OF 4 (DUAL) & DATA SEL	8	E23,E35,E36,E37,E49,E60,E91,
					CONT	E103
17	17		1910547-00	74S153 MUX 1 OF 4 (DUAL)	2	E9,E10
18	18		1910548-00	74S157 MUX 1 OF 2 (QUAD)	3	E7,E18,E20
19	19		1913839-00	74LS165 SHIFT REG.,8BIT	6	E4,E6,E8,E67,E70,E88
20	20		1910550-00	74S174 FF-D HEX	4	E30,E33,E44,E101
21	21		1910957-00	74S175 FF-D QUAD COMMON CLOCK	4	E74,E75,E84,E119
22	22		1910552-00	74S194 SHIFT REG.,4BIT RIGHT/LEFT	8	E27,E28,E13,E50,E52,E62,E63,
					CONT	E89
23	23		1911641-00	SN 74S257 MUX,QUAD 2 TO 1	4	E55,E56,F57,E68
24	24		1913887-00	74S258 MUX 1 OF 2(QUAD)TRI-STATE	1	E46
25	25		1912860-00	LS259 LATCH 8BIT	1	E11

REVISION HISTORY			VARIATIONS FOR THIS ASSY.			FIRST USED ON:			DIGITAL EQUIPMENT CORPORATION		
CHK	ECO NO	REV							MAYNARD, MASSACHUSETTS		
---	INIT	D				MADE BY:	M. FUNARO	DATE: 24-AUG-78	TITLE		
									PARTS LIST		
						CHECKED:	F. SMART	DATE: 24-AUG-78	SBL		
						DSN.ENG.:	T. ERMOLOVICH	DATE: 24-AUG-78			
						PROD.:	M. TERELLO	DATE: 24-AUG-78	SIZE	CODE	DOCUMENT NUMBER
									K	PL	M8218-0-DBP
						RESP.ENG.:	T. ERMOLOVICH	DATE: 24-AUG-78	ASSY.NO.:		D-UA-M8218-0-0
											EDIT#
											5

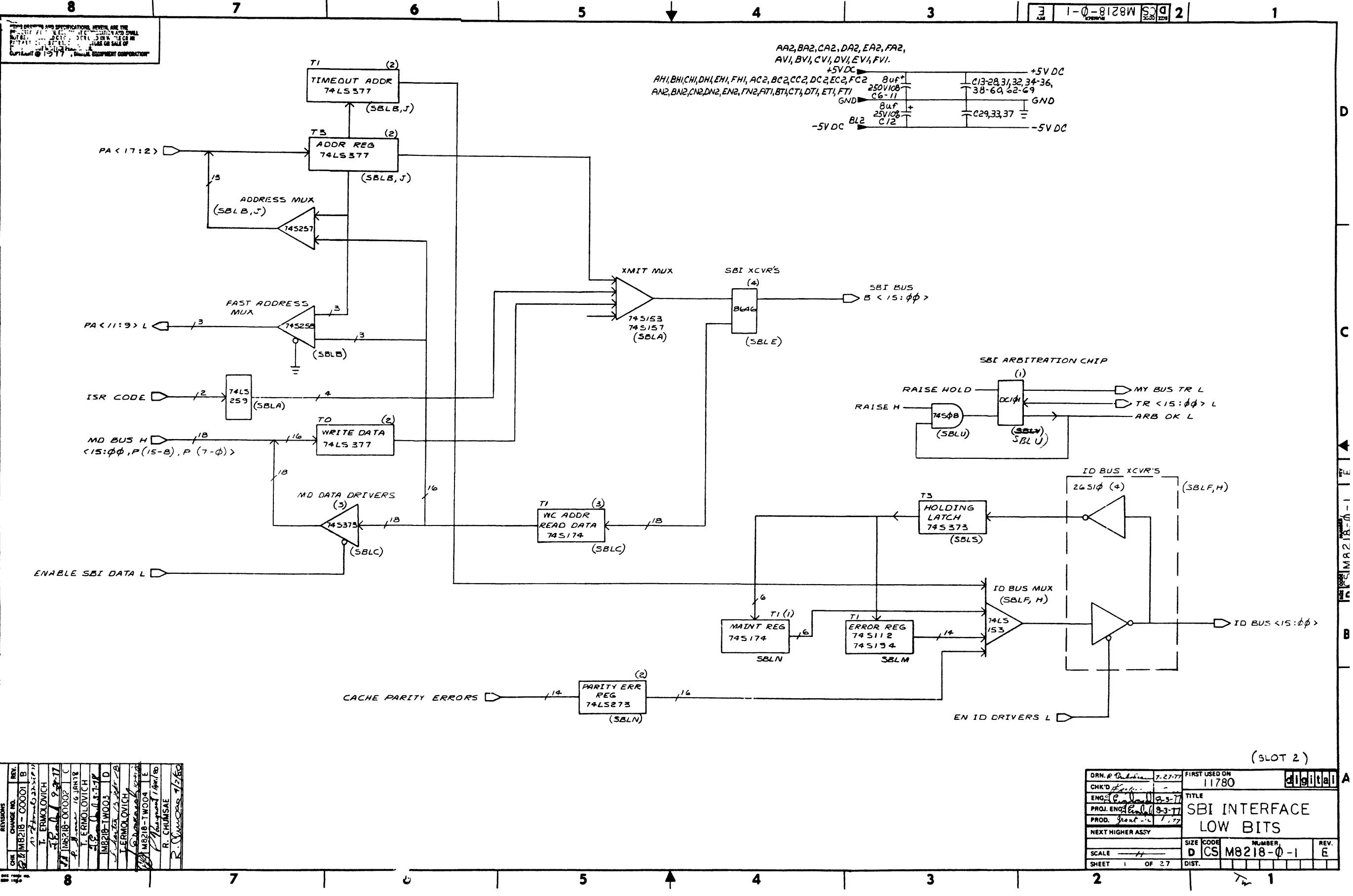
"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT 1978. DIGITAL EQUIPMENT CORPORATION "

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
26	26		1911573-00	74S280 PARITY GEN/CHKR,9BIT ODD/EVEN	1	E3
27	27		1913670-00	74S373 LATCH 8BIT TRASP TRISTATE	9	E17,E31,E32,E83,E100,E111,
					CONT	E128,E131,E144
28	28		1912872-00	LS377 FF-D 8BIT W/ENABLE	6	E5,E19,E21,E47,E58,E66
29	29		1912863-00	LS273 FF-D OCTAL W/CLEAR	2	E34,E79
30	30		1912096-00	DEC 74S86 XOR GATE,QUAD 2IN	1	E22
31	31		1913788-00	26S10 TRANSCEIVER,BUS,QUAD	4	E29,F48,E59,E99
32	32		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,UNIBUS,Q-BU	1	E87
33	33		1912731-00	DEC 8646 TRANSCEIVER,4BIT BUS	4	E1,E2,E15,E16
34	34		1913294-00	93S16 COUNTER,SYNCH UP BINARY	2	E42,E53
35	35		1911415-00	10125 ECL TO TTL TRNSLTR ECL 16 P	4	E43,E54,E65,E76
36	36		1913730-00	DC 101 PRIORITY ARBITRATOR CHIP 28P	1	E124
37	37		1913888-00	DC 102 EQUALS CHECKER 8BIT	2	E45,F141
38	38		1012084-01	8 MFD 25V G% 30D AL EL (10-12	7	C6-C12
39	39		1012784-00	.047 MFD 50V -20+80 CER	60	C1-C5,C13-C29,C31-C60,C62-C69
40	40		1103041-00	DEC 777 QS=12PCB PIV= 8VS	2	D9,D10
41	41		1302957-00	121 1/4W 1% RN55D-F 100PPM (13-00	12	R1,R2,R5,R6,R9,R10,R13,R14,
					CONT	R27,R68,R70,R34
42	42		1300250-00	150 1/4W 5% CC (13-00	11	R3,R4,R7,R8,R11,R12,R15,R16,
					CONT	R29,R31,R32
43	43		1300271-00	220 1/4W 5% CC (13-00	2	R36,R69
44	44		1300295-00	330 1/4W 5% CC (13-00	5	R17,R19,R21,R23,R24
45	45		1301424-00	680 1/4W 5% CC (13-00	5	R18,R20,R22,R25,R26
46	46		2301981-00	B1-01 PROM,	1	E143
47	47		2302081-00	B1-01 PROM,	1	E142
48	48		1210711-02	HANDLE,HEX MODULE,10-1/2 \$	1	
49	49		9000024-01	EYELET, ROLLED FLANGE, .121 OD X .196 LG	12	
50	50		23019F1-00	F1-01 PROM, 1	1	E38
51	51		9105740-55	WIRE(WRAP)30AWG UL1423 (91-00 A/R		

52 NOTE: NOTE 1:LINE 46,NOT USED COMPONENTS
53 NOTE: NOTE 2:LINE 51,SPARES

REF. DES.: R28,R30,R33,P35,R66,D1-D8
REF. DES.:E12,E14,E138,E139,E148-E150

! DIGITAL EQUIPMENT CORPORATION !	! TITLE !	! PARTS LIST !	! SIZE !	! CODE !	! DOCUMENT NUMBER !	! REV !
! MAYNARD, MASSACHUSETTS !	! SBL !		! K !	! PL !	! M8218-0-DBP !	! D !

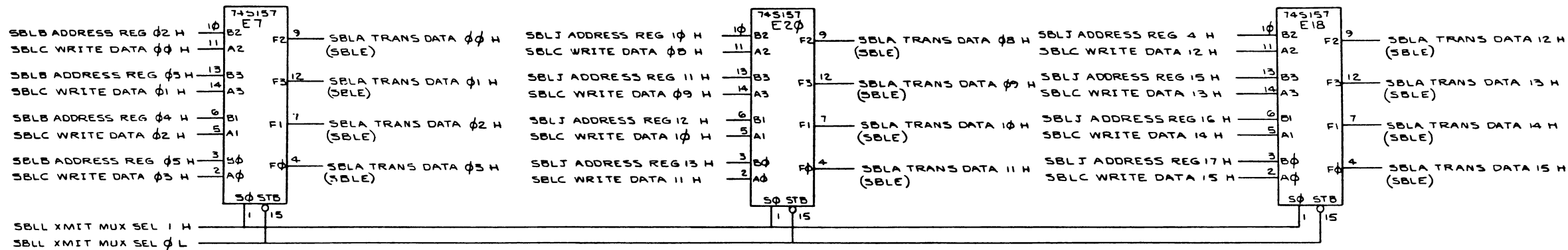


REV	CHG	DATE	BY	CHK
1	1	10/1/77	T. ERMOLOVICH	
2	2	10/1/77	T. ERMOLOVICH	
3	3	10/1/77	T. ERMOLOVICH	
4	4	10/1/77	T. ERMOLOVICH	
5	5	10/1/77	T. ERMOLOVICH	
6	6	10/1/77	T. ERMOLOVICH	
7	7	10/1/77	T. ERMOLOVICH	
8	8	10/1/77	T. ERMOLOVICH	
9	9	10/1/77	T. ERMOLOVICH	
10	10	10/1/77	T. ERMOLOVICH	
11	11	10/1/77	T. ERMOLOVICH	
12	12	10/1/77	T. ERMOLOVICH	
13	13	10/1/77	T. ERMOLOVICH	
14	14	10/1/77	T. ERMOLOVICH	
15	15	10/1/77	T. ERMOLOVICH	
16	16	10/1/77	T. ERMOLOVICH	
17	17	10/1/77	T. ERMOLOVICH	
18	18	10/1/77	T. ERMOLOVICH	
19	19	10/1/77	T. ERMOLOVICH	
20	20	10/1/77	T. ERMOLOVICH	
21	21	10/1/77	T. ERMOLOVICH	
22	22	10/1/77	T. ERMOLOVICH	
23	23	10/1/77	T. ERMOLOVICH	
24	24	10/1/77	T. ERMOLOVICH	
25	25	10/1/77	T. ERMOLOVICH	
26	26	10/1/77	T. ERMOLOVICH	
27	27	10/1/77	T. ERMOLOVICH	
28	28	10/1/77	T. ERMOLOVICH	
29	29	10/1/77	T. ERMOLOVICH	
30	30	10/1/77	T. ERMOLOVICH	
31	31	10/1/77	T. ERMOLOVICH	
32	32	10/1/77	T. ERMOLOVICH	
33	33	10/1/77	T. ERMOLOVICH	
34	34	10/1/77	T. ERMOLOVICH	
35	35	10/1/77	T. ERMOLOVICH	
36	36	10/1/77	T. ERMOLOVICH	
37	37	10/1/77	T. ERMOLOVICH	
38	38	10/1/77	T. ERMOLOVICH	
39	39	10/1/77	T. ERMOLOVICH	
40	40	10/1/77	T. ERMOLOVICH	
41	41	10/1/77	T. ERMOLOVICH	
42	42	10/1/77	T. ERMOLOVICH	
43	43	10/1/77	T. ERMOLOVICH	
44	44	10/1/77	T. ERMOLOVICH	
45	45	10/1/77	T. ERMOLOVICH	
46	46	10/1/77	T. ERMOLOVICH	
47	47	10/1/77	T. ERMOLOVICH	
48	48	10/1/77	T. ERMOLOVICH	
49	49	10/1/77	T. ERMOLOVICH	
50	50	10/1/77	T. ERMOLOVICH	
51	51	10/1/77	T. ERMOLOVICH	
52	52	10/1/77	T. ERMOLOVICH	
53	53	10/1/77	T. ERMOLOVICH	
54	54	10/1/77	T. ERMOLOVICH	
55	55	10/1/77	T. ERMOLOVICH	
56	56	10/1/77	T. ERMOLOVICH	
57	57	10/1/77	T. ERMOLOVICH	
58	58	10/1/77	T. ERMOLOVICH	
59	59	10/1/77	T. ERMOLOVICH	
60	60	10/1/77	T. ERMOLOVICH	
61	61	10/1/77	T. ERMOLOVICH	
62	62	10/1/77	T. ERMOLOVICH	
63	63	10/1/77	T. ERMOLOVICH	
64	64	10/1/77	T. ERMOLOVICH	
65	65	10/1/77	T. ERMOLOVICH	
66	66	10/1/77	T. ERMOLOVICH	
67	67	10/1/77	T. ERMOLOVICH	
68	68	10/1/77	T. ERMOLOVICH	
69	69	10/1/77	T. ERMOLOVICH	
70	70	10/1/77	T. ERMOLOVICH	
71	71	10/1/77	T. ERMOLOVICH	
72	72	10/1/77	T. ERMOLOVICH	
73	73	10/1/77	T. ERMOLOVICH	
74	74	10/1/77	T. ERMOLOVICH	
75	75	10/1/77	T. ERMOLOVICH	
76	76	10/1/77	T. ERMOLOVICH	
77	77	10/1/77	T. ERMOLOVICH	
78	78	10/1/77	T. ERMOLOVICH	
79	79	10/1/77	T. ERMOLOVICH	
80	80	10/1/77	T. ERMOLOVICH	
81	81	10/1/77	T. ERMOLOVICH	
82	82	10/1/77	T. ERMOLOVICH	
83	83	10/1/77	T. ERMOLOVICH	
84	84	10/1/77	T. ERMOLOVICH	
85	85	10/1/77	T. ERMOLOVICH	
86	86	10/1/77	T. ERMOLOVICH	
87	87	10/1/77	T. ERMOLOVICH	
88	88	10/1/77	T. ERMOLOVICH	
89	89	10/1/77	T. ERMOLOVICH	
90	90	10/1/77	T. ERMOLOVICH	
91	91	10/1/77	T. ERMOLOVICH	
92	92	10/1/77	T. ERMOLOVICH	
93	93	10/1/77	T. ERMOLOVICH	
94	94	10/1/77	T. ERMOLOVICH	
95	95	10/1/77	T. ERMOLOVICH	
96	96	10/1/77	T. ERMOLOVICH	
97	97	10/1/77	T. ERMOLOVICH	
98	98	10/1/77	T. ERMOLOVICH	
99	99	10/1/77	T. ERMOLOVICH	
100	100	10/1/77	T. ERMOLOVICH	

DRN. R. 11780	FIRST USED ON	11780	digital
CHK'D. 11780	TITLE	SBI INTERFACE LOW BITS	
ENG. 11780	PROJ. ENG. 11780	PROD. 11780	
NEXT HIGHER ASSY			
SCALE 1/1	SIZE D	CODE CS M8218-0-1	REV. E
SHEET 1 OF 27	DIST.		

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

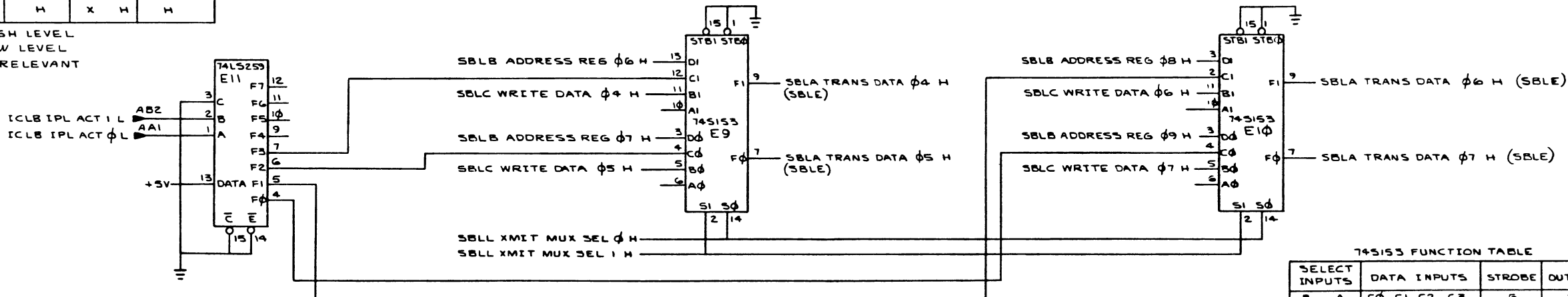
TRANSMIT MULTIPLEXERS



74S157 FUNCTION TABLE

INPUTS		OUTPUT	
STROBE	SELECT	A	B
H	X	X	X
L	L	L	X
L	L	H	X
L	H	X	L
L	H	X	H

H = HIGH LEVEL
L = LOW LEVEL
X = IRRELEVANT



74S259 FUNCTION TABLE

INPUTS		OUTPUT OF ADDRESSED LATCH		EACH OTHER OUTPUT		FUNCTION	
CLEAR	G	D	Q ₁₀	Q ₁₀	Q ₁₀	ADDRESSABLE LATCH	MEMORY
H	L	D	Q ₁₀	Q ₁₀	Q ₁₀	ADDRESSABLE LATCH	MEMORY
H	H	D	Q ₁₀	Q ₁₀	Q ₁₀	ADDRESSABLE LATCH	MEMORY
L	L	D	Q ₁₀	Q ₁₀	Q ₁₀	ADDRESSABLE LATCH	MEMORY
L	H	D	Q ₁₀	Q ₁₀	Q ₁₀	ADDRESSABLE LATCH	MEMORY

H = HIGH LEVEL, L = LOW LEVEL,
D = THE LEVEL AT THE DATA INPUT,
Q₁₀ = THE LEVEL OF Q₁₀ (phi 1, 7 AS
APPROPRIATE) BEFORE THE
INDICATED STEADY STATE
INPUT CONDITIONS WERE
ESTABLISHED

LATCH SELECTION TABLE

SELECT INPUTS			LATCH ADDRESSED	
C	B	A	phi	1
L	L	L	phi	1
L	L	H	1	2
L	H	L	2	3
L	H	H	3	4
H	L	L	4	5
H	L	H	5	6
H	H	L	6	7
H	H	H	7	7

H = HIGH LEVEL
L = LOW LEVEL
X = IRRELEVANT
SELECT INPUTS A AND B
ARE COMMON TO BOTH
SECTIONS

74S153 FUNCTION TABLE

SELECT INPUTS		DATA INPUTS				STROBE		OUTPUT	
B	A	C0	C1	C2	C3	G	Y		
X	X	X	X	X	X	H	L		
L	L	L	X	X	X	L	L		
L	L	H	X	X	X	L	H		
L	H	X	L	X	X	L	L		
L	H	X	H	X	X	L	H		
H	L	X	X	L	X	L	L		
H	L	X	X	H	X	L	H		
H	H	X	X	X	L	L	L		
H	H	X	X	X	H	L	H		

NOTE: ALL RESISTORS ARE 1/4W
UNLESS OTHERWISE SPECIFIED

(SBI TRANSMIT DATA LOGIC) (SLOT 2)

TITLE		SIZE/DATE		NUMBER		REV.	
SBI INTERFACE LOW BITS		DCS		M8218-0-1		E	
SCALE		SHEET 2 OF 27		DIST.			

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

74LS377 FUNCTION TABLE
(EACH FLIP-FLOP)

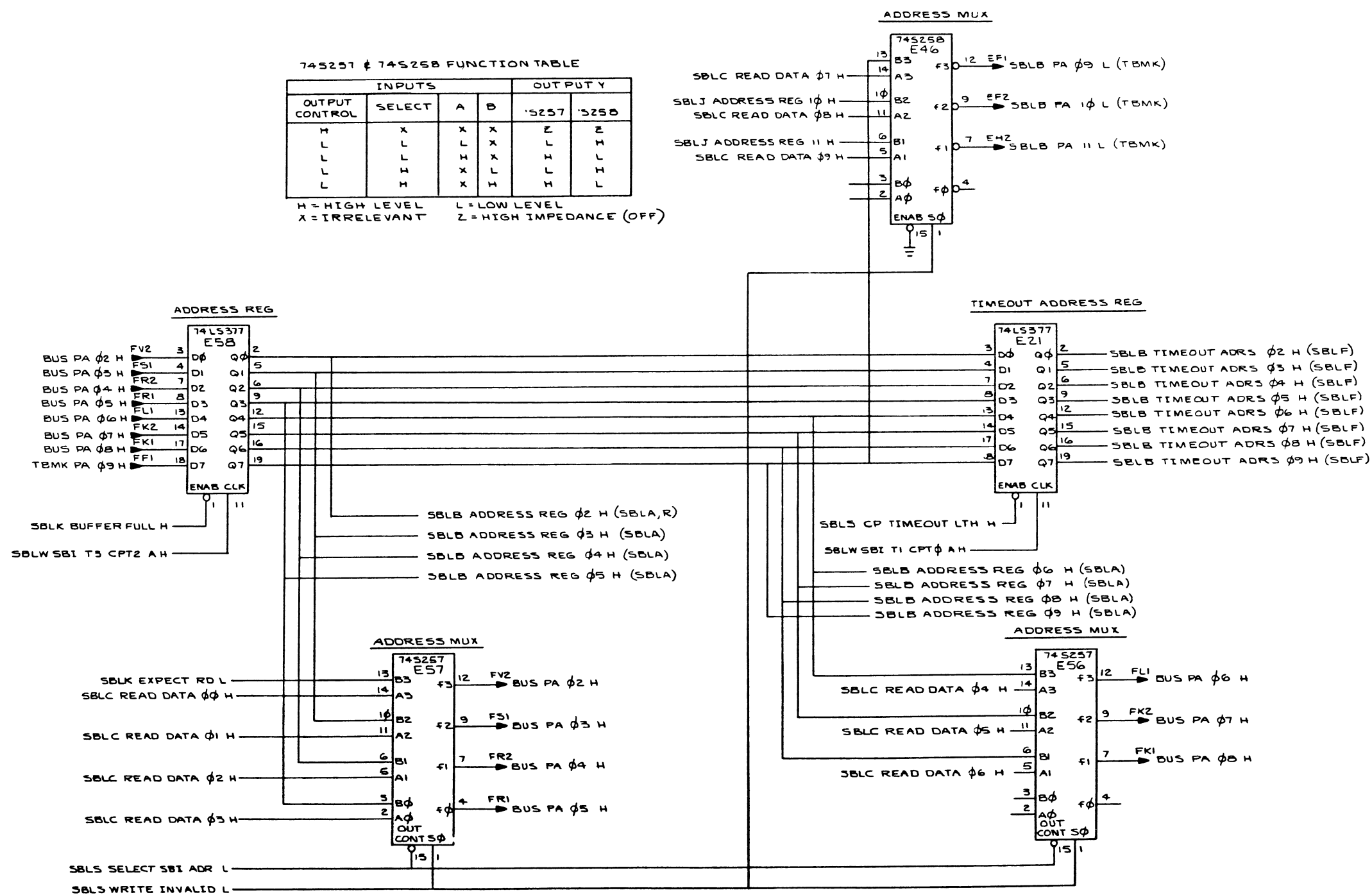
INPUTS			OUTPUTS	
\bar{C}	CLOCK DATA		Q	\bar{Q}
H	X	X	Q ₀	\bar{Q}_0
L	1	H	L	L
L	1	L	L	1
X	L	X	Q ₀	\bar{Q}_0

H = HIGH LEVEL
L = LOW LEVEL
X = IRRELEVANT

74S257 & 74S258 FUNCTION TABLE

INPUTS				OUTPUT Y	
OUTPUT CONTROL	SELECT	A	B	'S257	'S258
H	X	X	X	Z	Z
L	L	L	X	L	H
L	L	H	X	H	L
L	H	X	L	L	H
L	H	X	H	H	L

H = HIGH LEVEL
L = LOW LEVEL
X = IRRELEVANT
Z = HIGH IMPEDANCE (OFF)



REV. E
DCS M8218-0-1

B

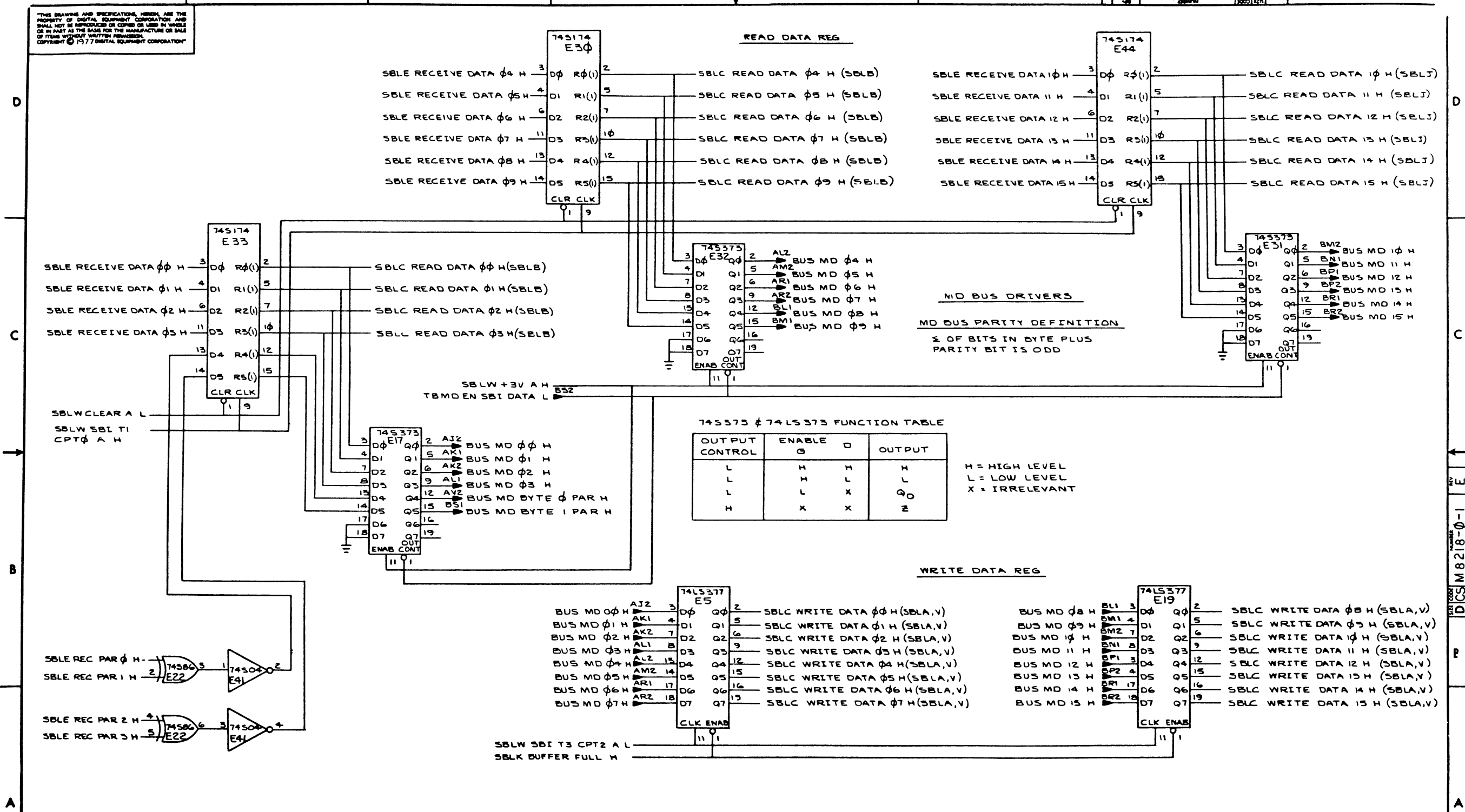
A

THIS DRAWING AND SPECIFICATIONS HEREON ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-8128W

2

1



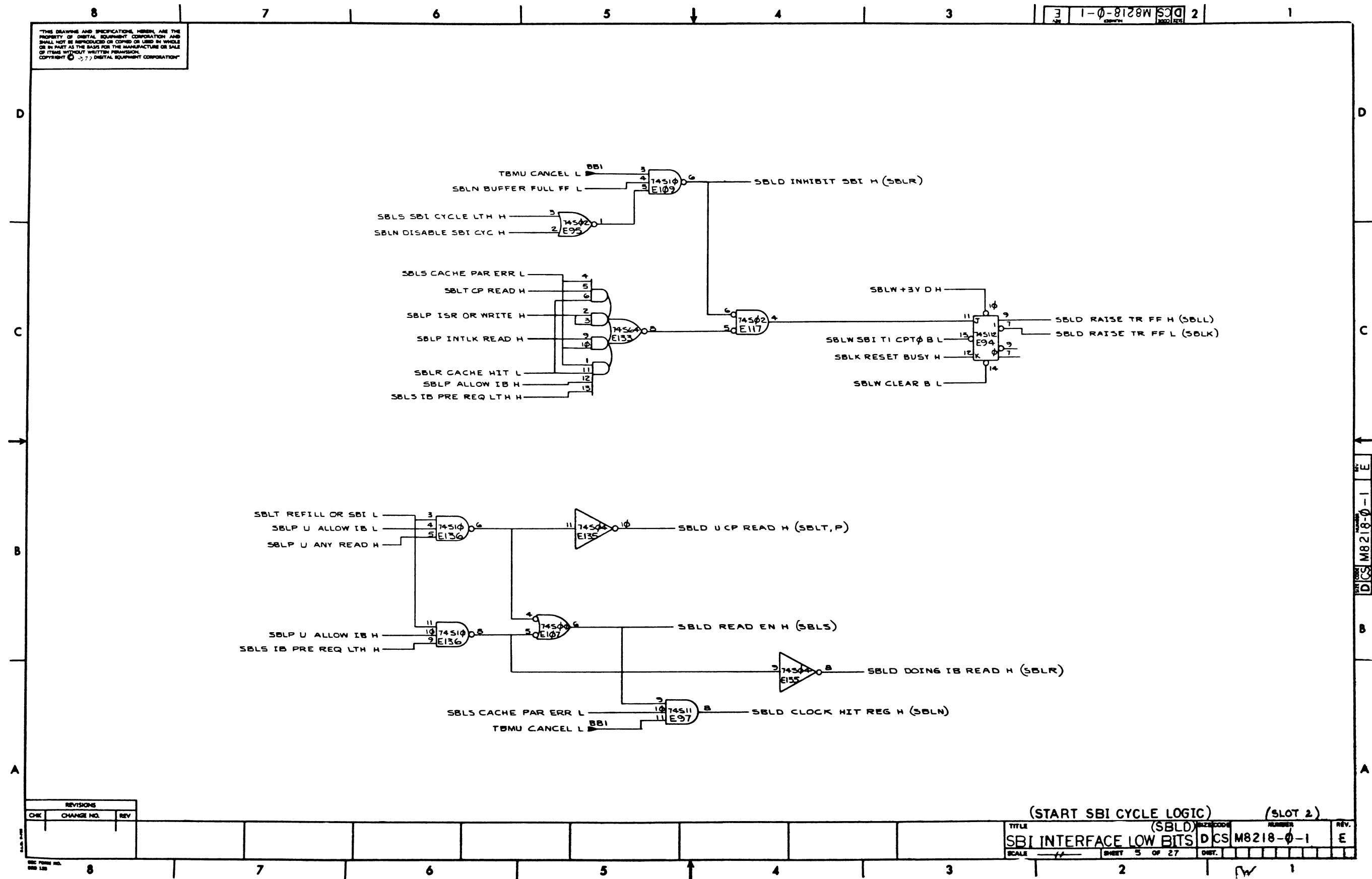
DCS M8218-0-1

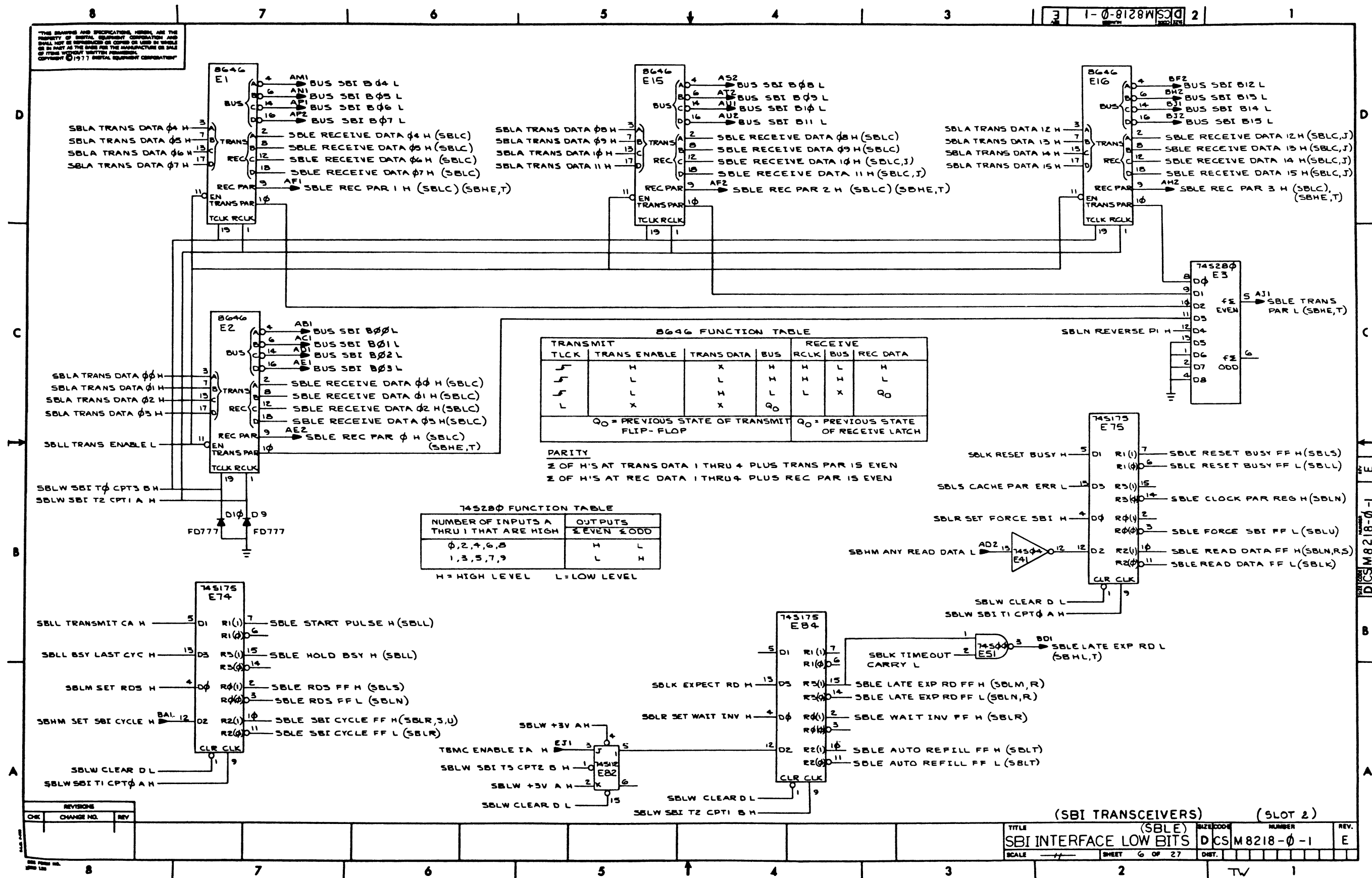
REV

A

REV.	CHANGE NO.	DATE

(DATA LOGIC)				(SLOT 2)			
TITLE		(SBLC)		SIZE CODE	NUMBER		REV.
SBI INTERFACE LOW BITS		D C S		M8218-0-1		E	
SCALE	SHEET 4 OF 27		DIST.				



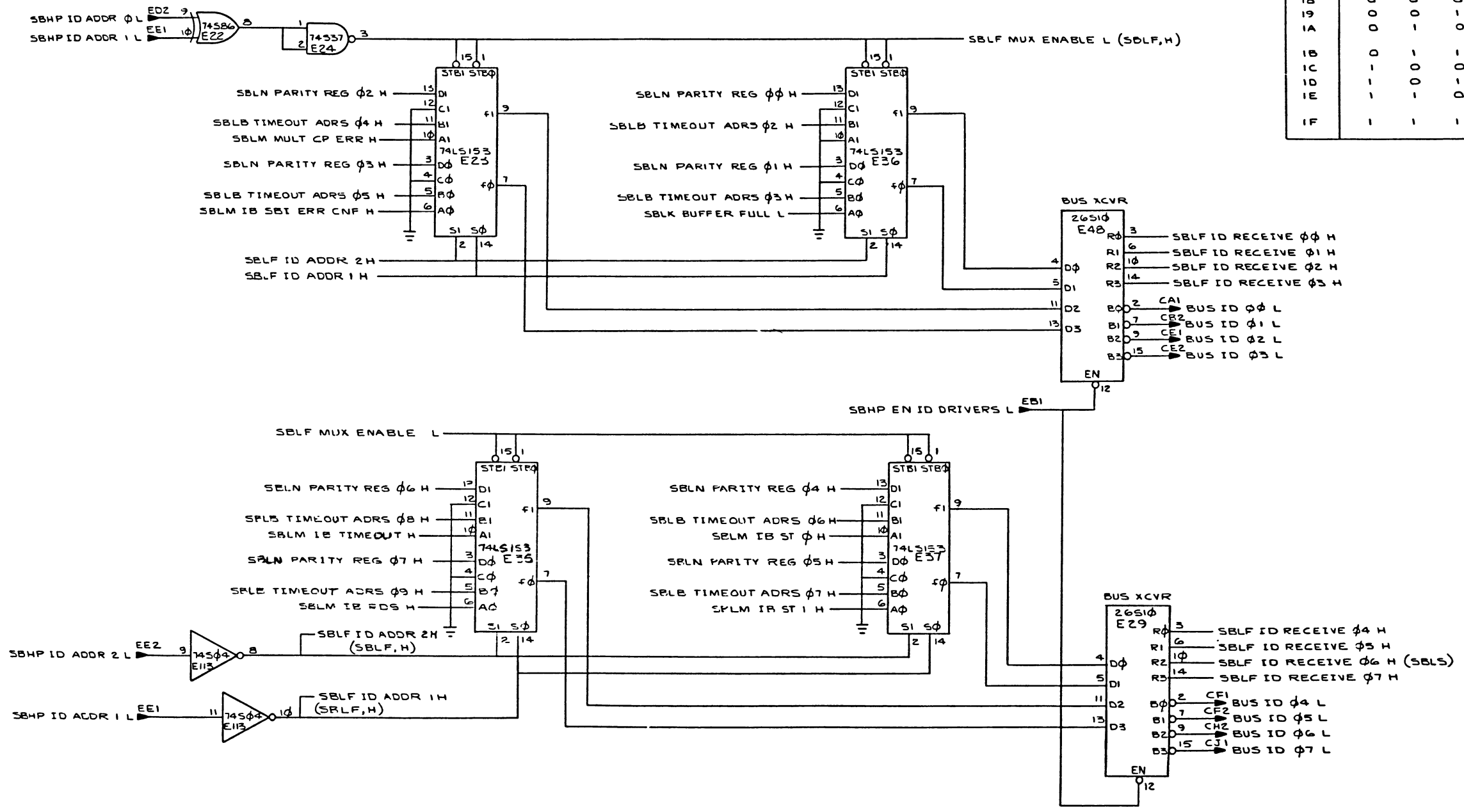


THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

DCS M8218-0-1

SBL ID BUS BITS 7-φ

ID BUS ADDRESS				ID BUS DATA
HEX	A2	A1	Aφ	
18	0	0	0	0
19	0	0	1	SBI ERROR REG
1A	0	1	0	TIMEOUT ADRS REG
1B	0	1	1	0
1C	1	0	0	0
1D	1	0	1	0
1E	1	1	0	CACHE PARITY REG
1F	1	1	1	0



DCS M8218-0-1

B

A

D

C

(ID BUS MUX BITS 7-φ)

(SLOT 2)

(SBLF)

SBI INTERFACE LOW BITS

DCS M8218-0-1

REV. E

SHEET 7 OF 27

DIST.

SCALE

TW

8

7

6

5

4

3

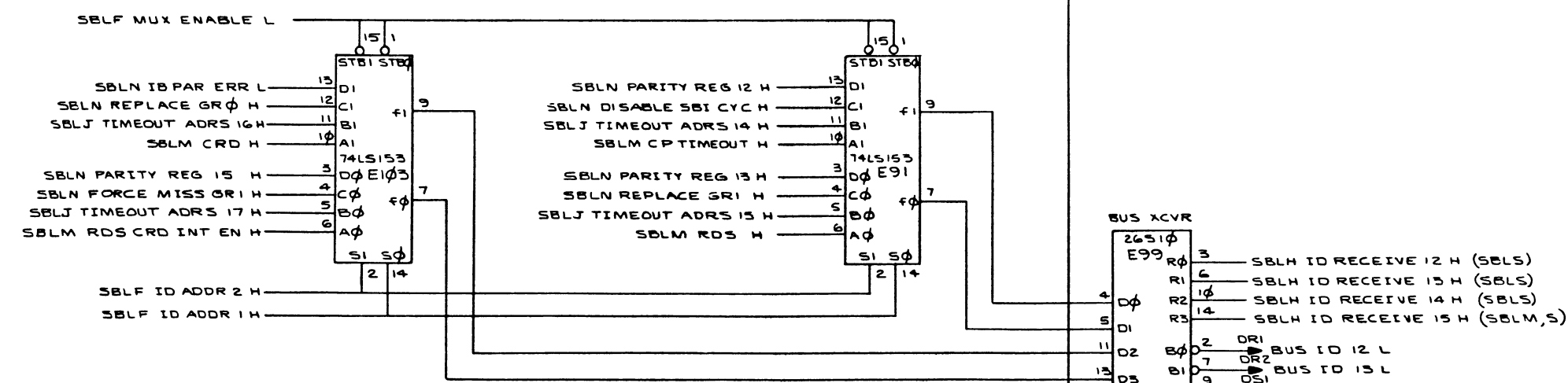
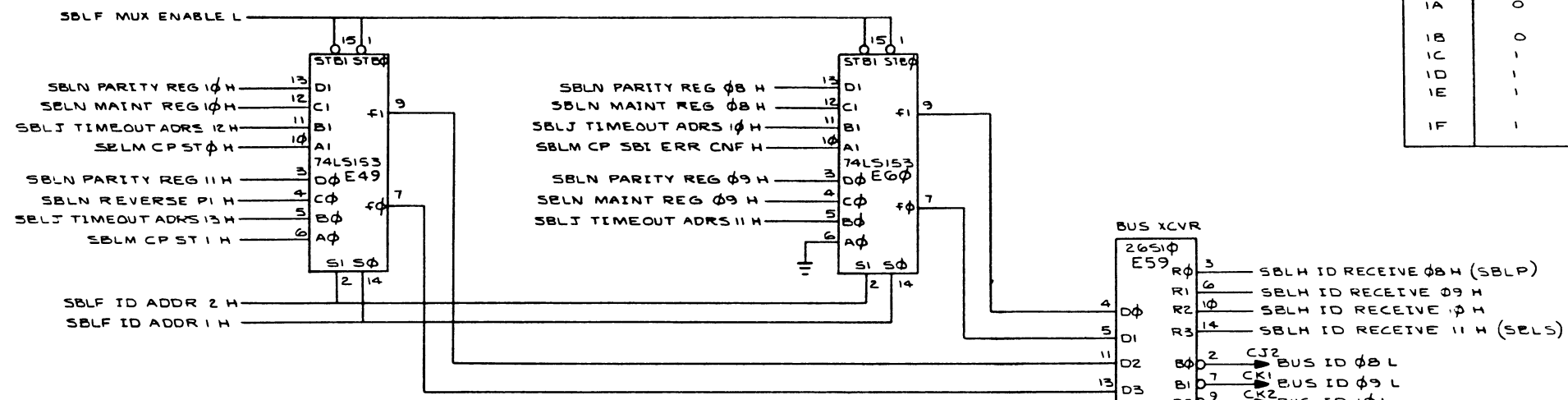
2

1

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

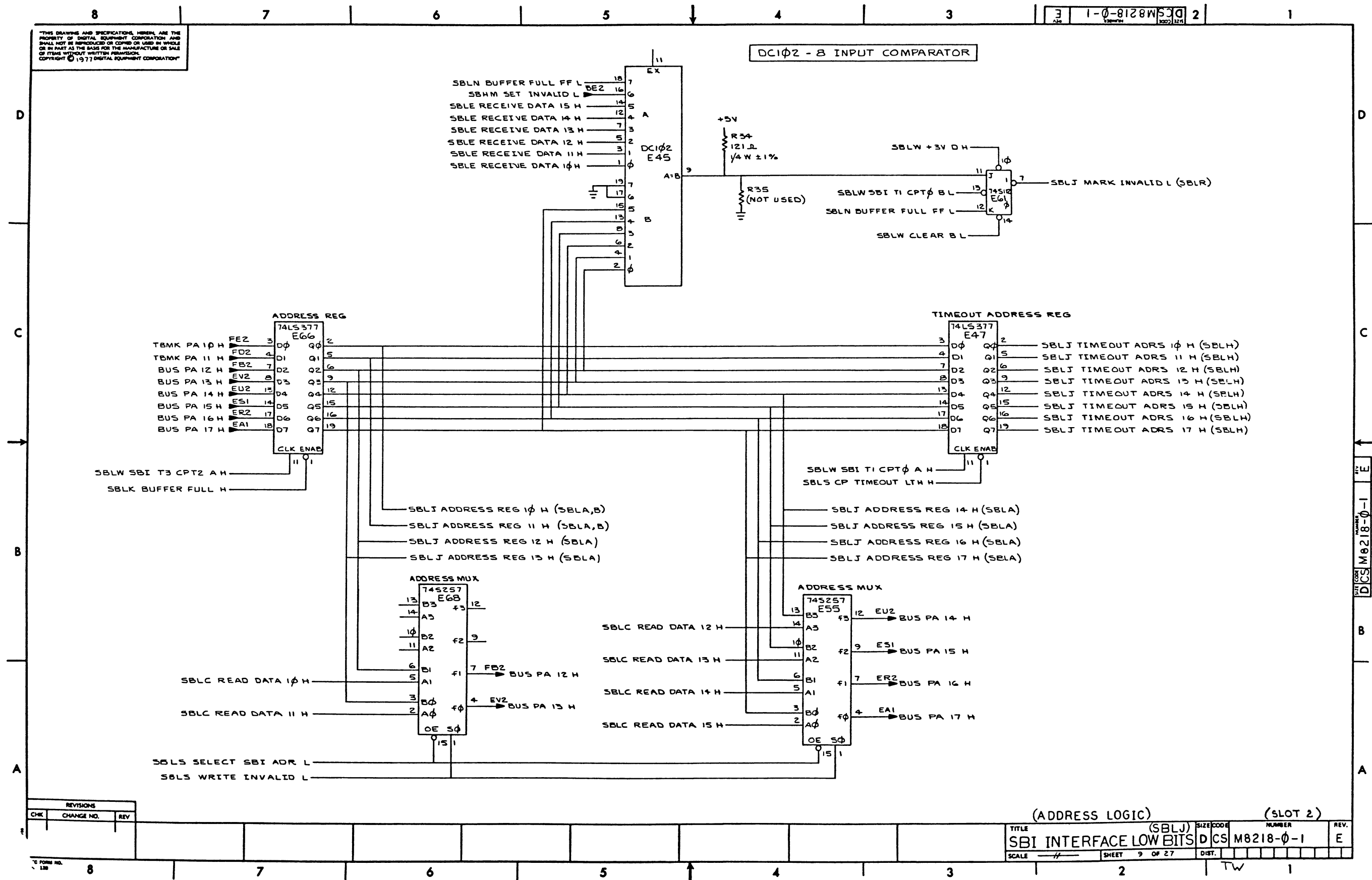
1-0-828W DCS M8218-0-1 2

ID BUS ADDRESS				ID BUS DATA
HEX	A2	A1	A0	
18	0	0	0	0
19	0	0	1	SBI ERROR REG
1A	0	1	0	TIMEOUT ADRS REG
1B	0	1	1	0
1C	1	0	0	0
1D	1	0	1	SBI MAINT REG
1E	1	1	0	CACHE PARITY REG
1F	1	1	1	0

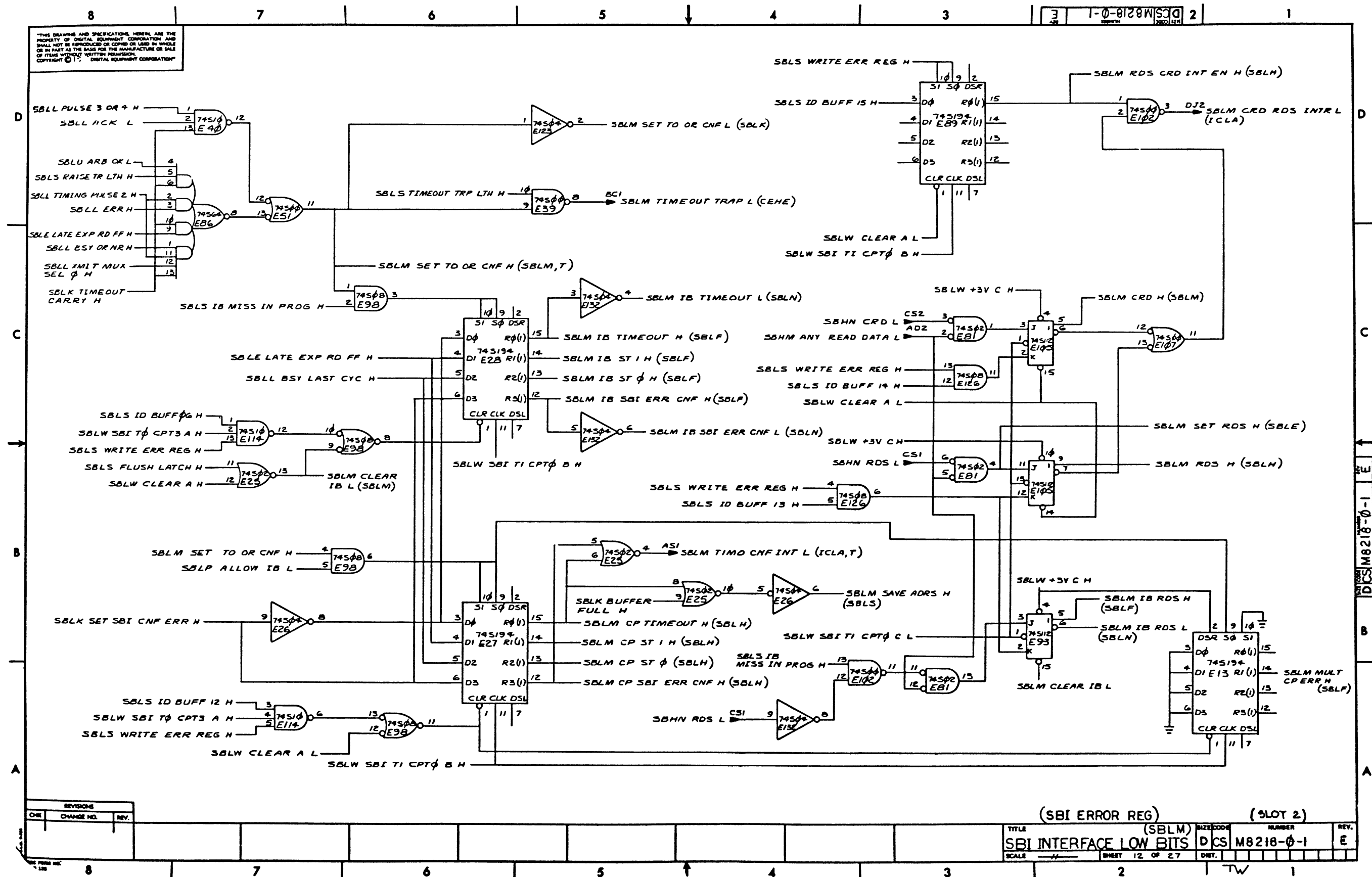


REVISIONS		
CHK	CHANGE NO.	REV

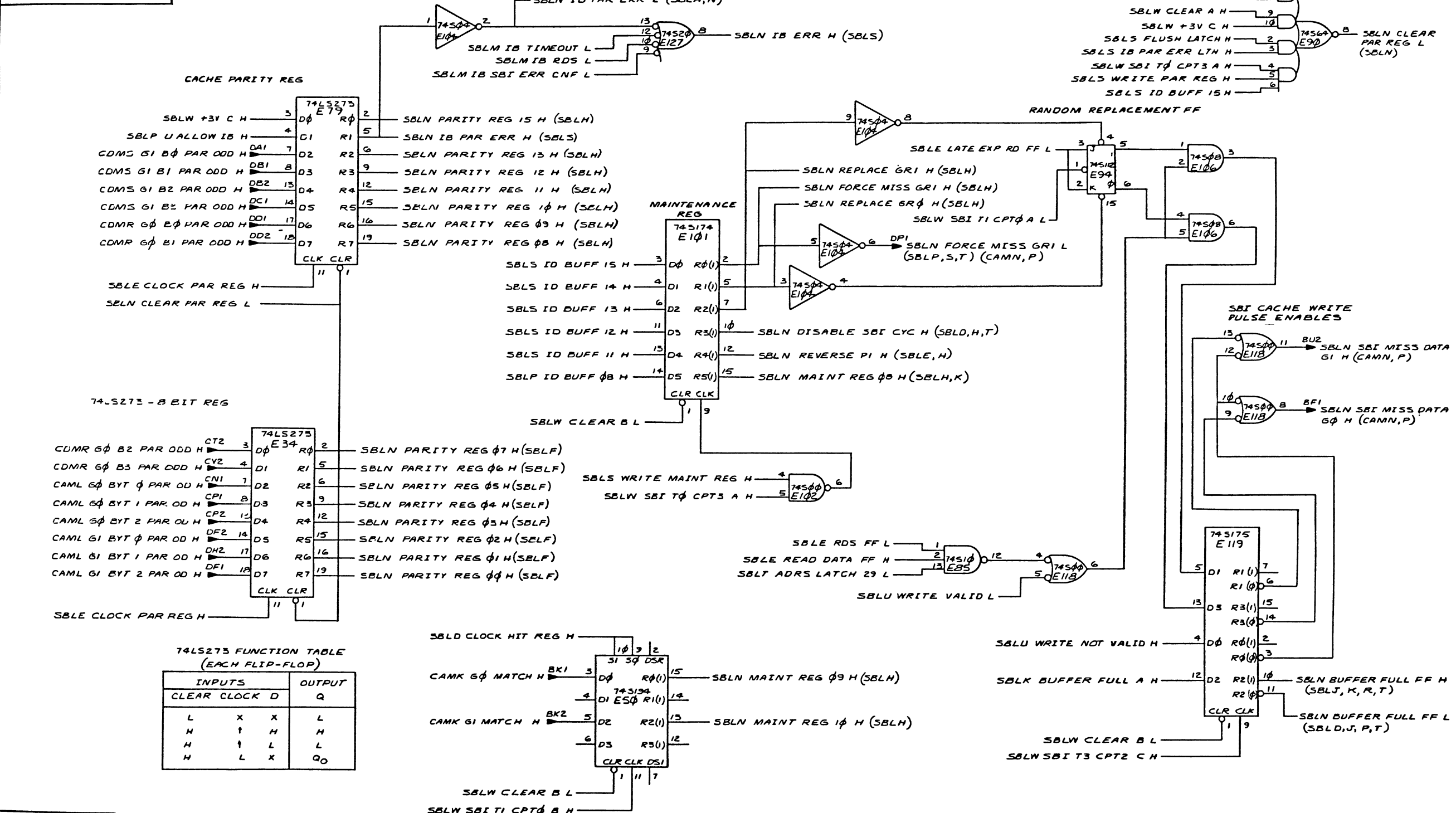
(ID BUS MUX BITS 15-8)				(SLOT 2)			
TITLE				SIZE CODE			
SBI INTERFACE LOW BITS				NUMBER			
SCALE				DIST.			
SHEET 8 OF 27				REV.			
				E			



(STATE CONTROL)				(SLOT 2)			
TITLE (SBLK)		SIZE	CODE	NUMBER		REV.	
SBI INTERFACE LOW BITS		D	CS	M8218-0-1		E	
SCALE	—/—	SHEET 10 OF 27		DIST.			

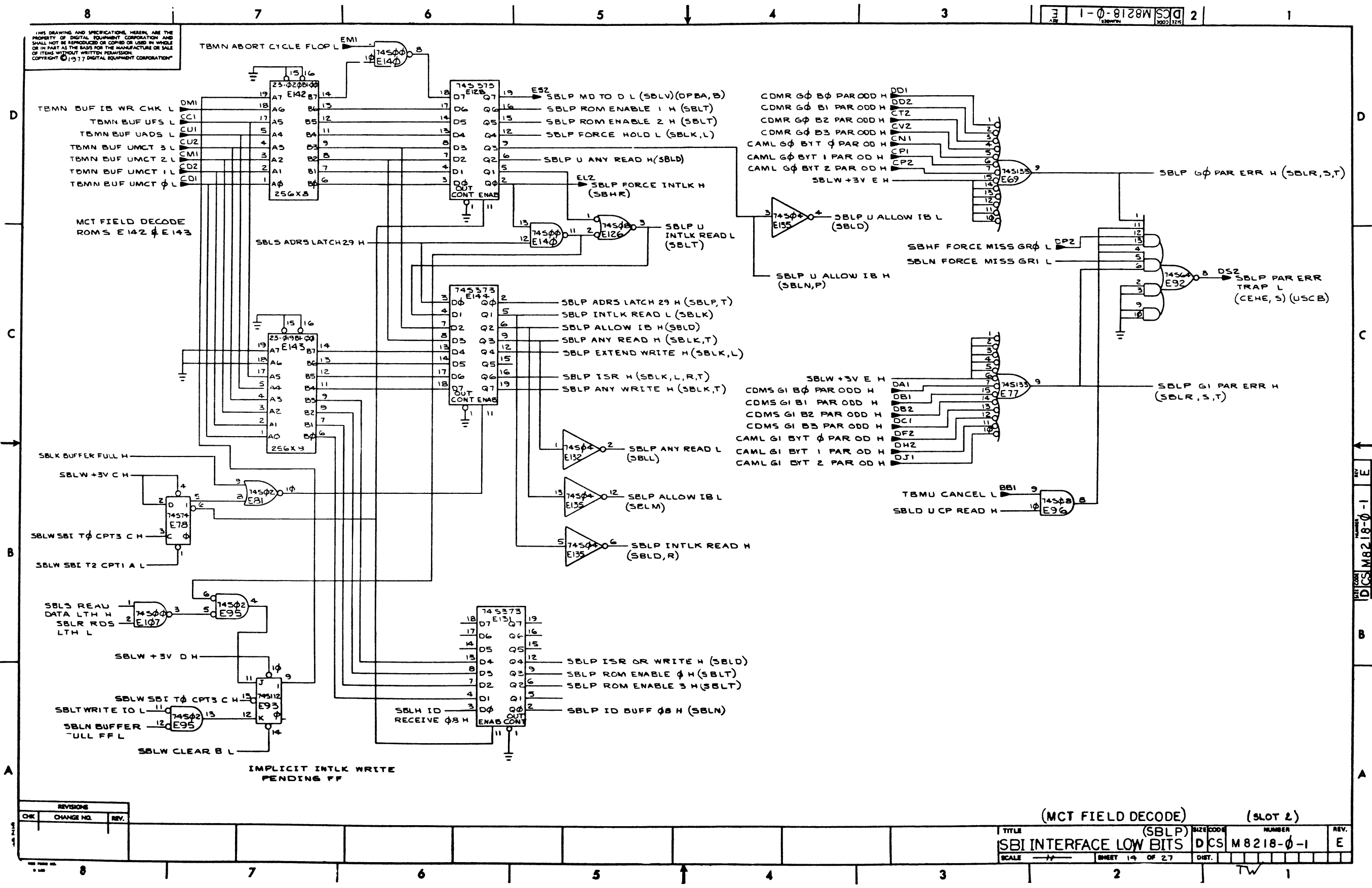


THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



74LS273 FUNCTION TABLE
(EACH FLIP-FLOP)

INPUTS				OUTPUT
CLEAR CLOCK D				Q
L	X	X	L	L
H	↑	H	H	H
H	↑	L	L	L
H	L	X	Q ₀	Q ₀



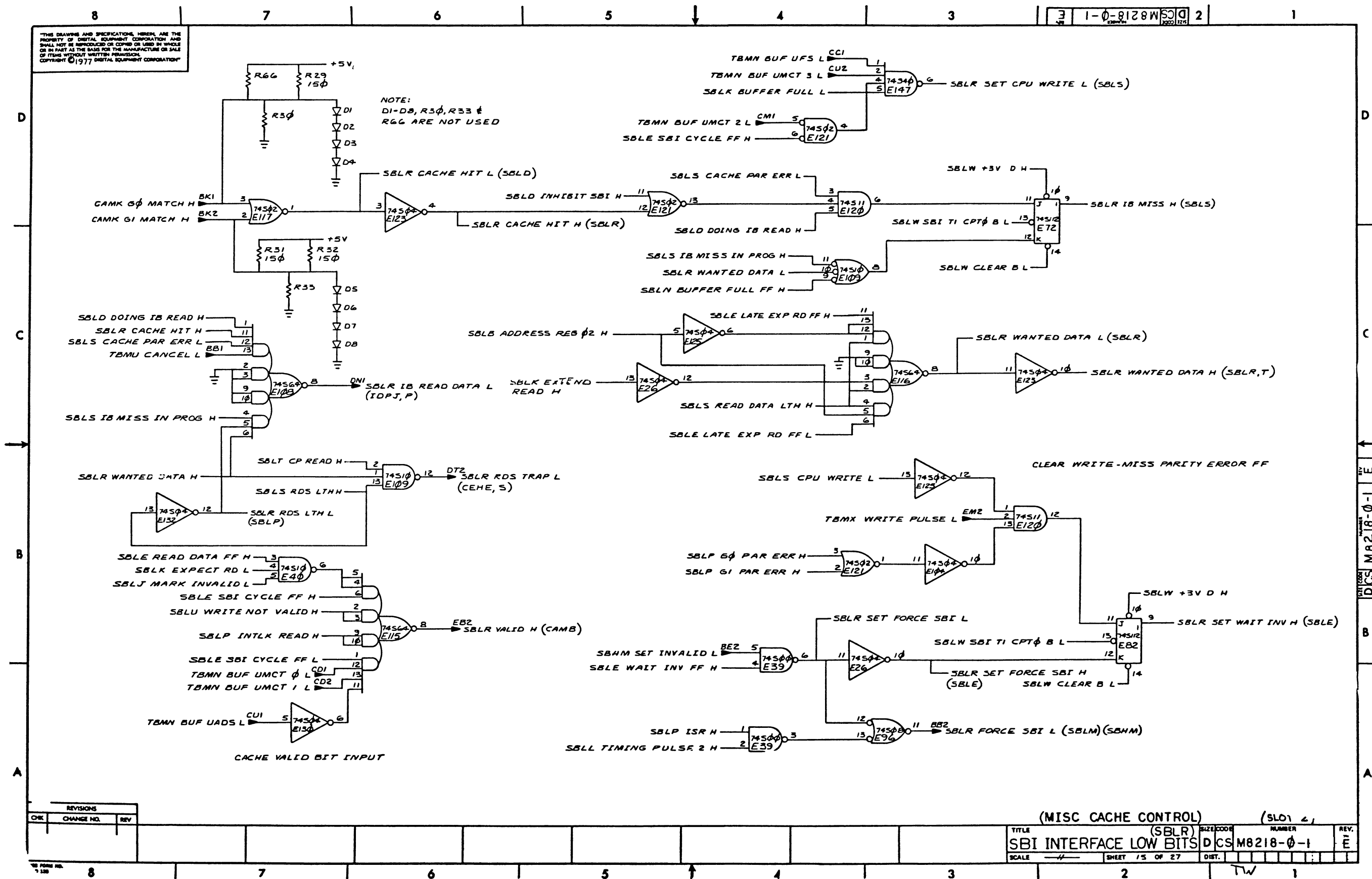
DCS M8218-0-1

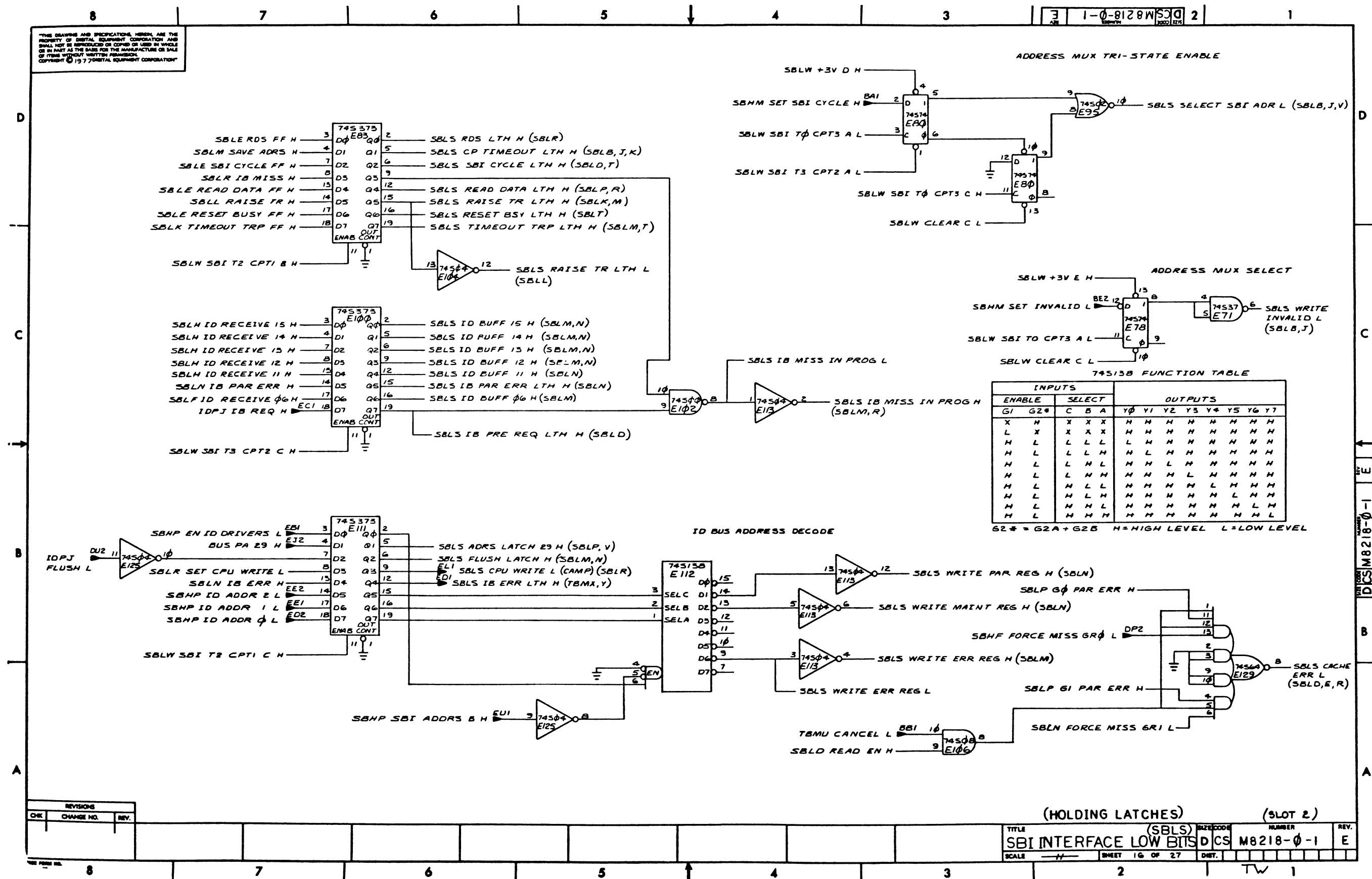
B

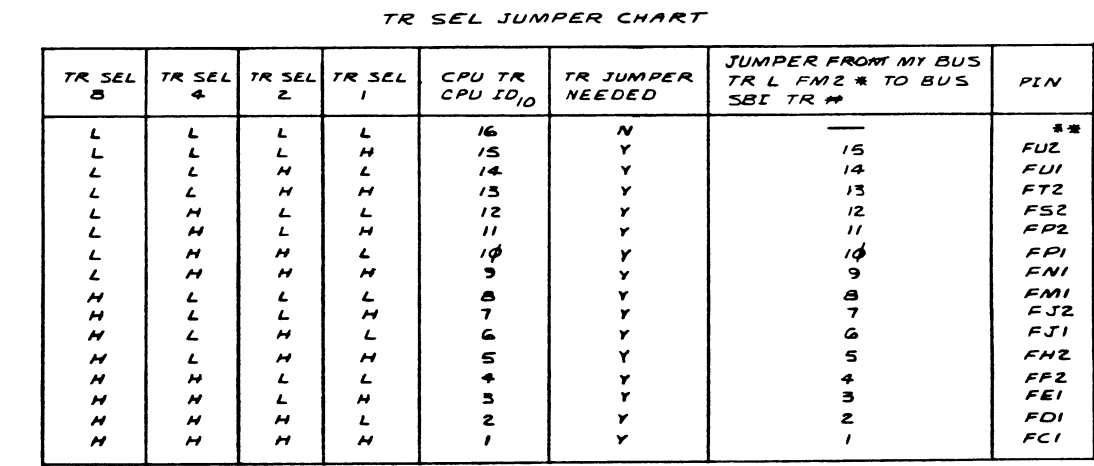
A

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE	CODE	NUMBER	REV.
(MCT FIELD DECODE)					
(SLOT 2)					
SBI INTERFACE LOW BITS		DCS	M8218-0-1	E	
SCALE		SHEET 14 OF 27		DIST.	







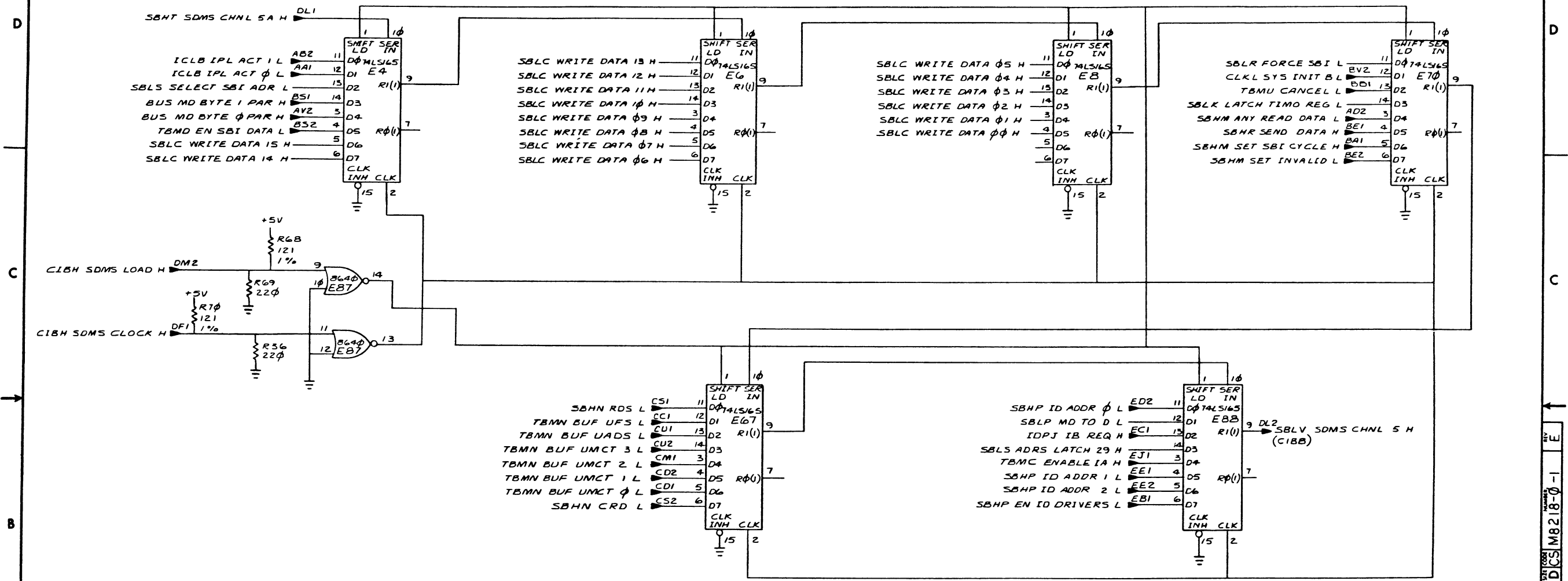
Y = YES N = NO * = JUMPER CONNECTION MADE ON SBL BACK PANEL SLOT
 ** = NORMAL CONFIGURATION OF UNIT PROCESSORS

REVISIONS			(SBI ARBITRATION)										(SLOT 2)			
CHK	CHANGE NO.	REV								TITLE	SIZE CODE	NUMBER	REV.			
												SBI INTERFACE LOW BITS	DCS	M8218-0-1	E	
										SCALE	SHEET 18 OF 27					
										TW						

8
7
6
5
4
3
2
1

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

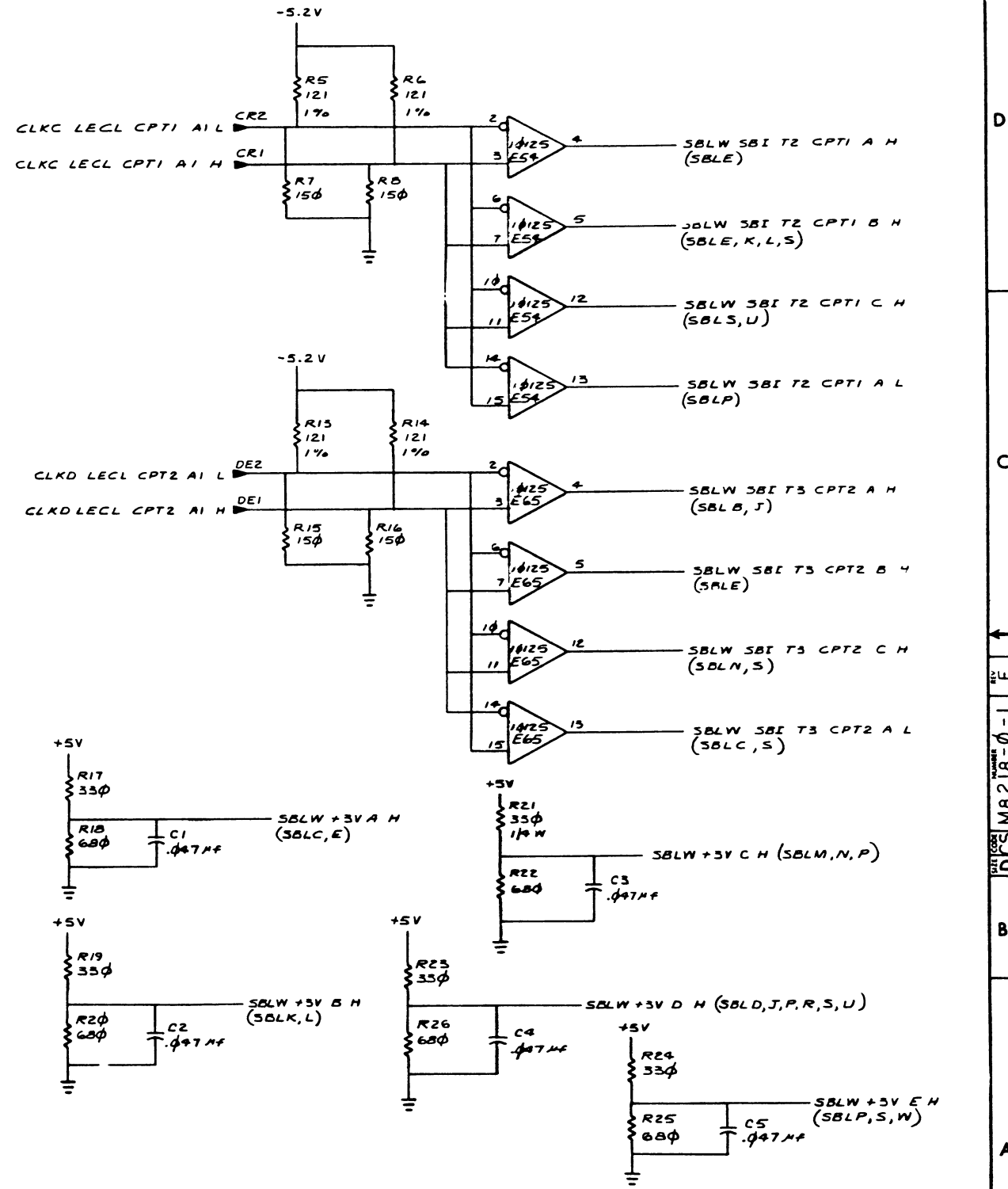
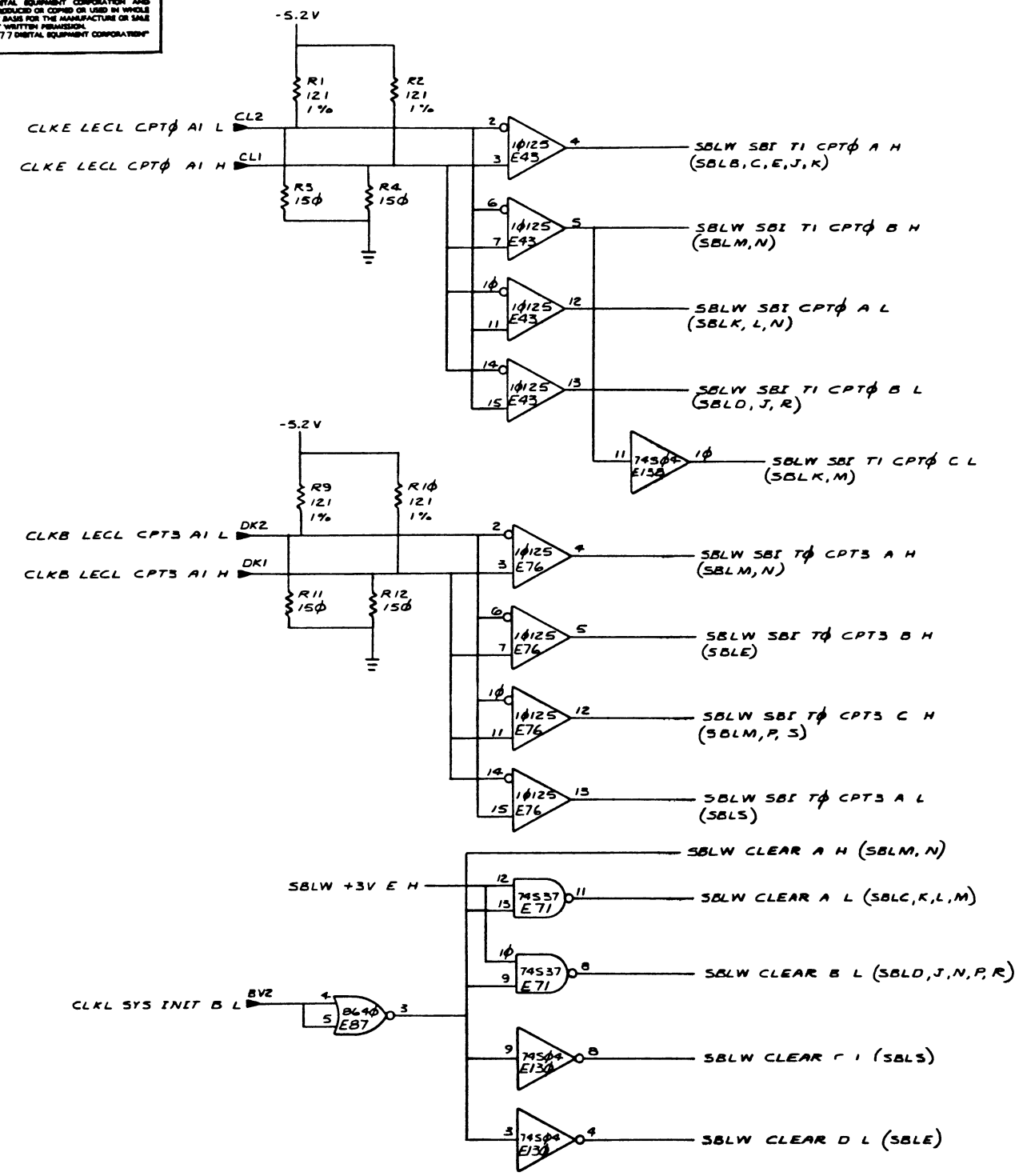
3 1-0-8128W 2



74LS165 FUNCTION TABLE

INPUTS					INTERNAL OUTPUTS		OUTPUT
SHIFT/LOAD	CLOCK INHIBIT	CLOCK	SERIAL	PARALLEL A...H	Q _A	Q _B	Q _H
L	X	X	X	a...h	a	b	h
H	L	L	X	X	Q _{AO}	Q _{BO}	Q _{HO}
H	L	↑	H	X	H	Q _{AN}	Q _{HN}
H	L	↑	L	X	L	Q _{AN}	Q _{HN}
H	H	X	X	X	Q _{AO}	Q _{BO}	Q _{HO}

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV

(CLOCK RECEIVERS)				(SLOT 2)			
TITLE		(SBLW)		SIZE	CODE	NUMBER	REV.
SBI INTERFACE LOW BITS		DCS		M8218-0-1		E	
SCALE		SHEET 20 OF 27		DIST.			

DEC PART NO.
23- ϕ 2 ϕ B1- $\phi\phi$
(256 x 8)
E142

ROM EN1 = ALWAYS DON'T STALL
ROM EN2 = STALL IF AUTO REFILL

NOTE: CHART CONTINUED ON
NEXT SHEET

(SLOT 2)

REVISIONS		
CHK	CHANGE NO.	REV

TITLE		SIZE	CODE	NUMBER		REV.
SBI INTERFACE LOW BITS		D	CS	M8218-0-1		E
SCALE	1/1	SHEET	21	OF	27	
DIST.						

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

(CONTINUED FROM PREVIOUS SHEET)

DEC PART NO.
23-020E1-00
(256 X 8)
E142

DEC PART NO.
23-190F1-00 (1K X 4)
E3B

DEFAULT CONDITION
CLEAR BUSY L = H
ACK PULSE L = H
CNFERR H = L
SET RETRY H = L

NOTE: ALL ENTRIES
NOT SHOWN ARE IN
THE DEFAULT CONDI-
TION

A7	A6	A5	A4	A3	A2	A1	A0	B7	B6	B5	B4	B3	B2	B1	B0	COMMAND DESCRIPTION	COMMENTS
H	H	L	L	X	X	X	X	L	H	L	H	H	H	L	L	DEFAULT, ALLOW IB READ NO MEMORY OP ALLOW IE READ	
H	H	L	L	L	L	L	L	L	H	L	H	L	L	H	L	INTLK READ.P	
H	H	L	L	L	L	L	L	L	H	L	H	L	L	H	L	ISR	
H	H	L	L	L	L	L	L	L	H	L	H	L	L	H	L	READ.P	
H	H	L	L	L	L	L	L	L	H	L	H	L	L	H	L	INTLK WRITE.P	
H	H	L	L	L	L	L	L	L	H	L	H	L	L	H	L	WRITE.P EXTENDED WRITE.P VALIDATE	FORCE INTLK WRITE IF PA29=1
H	H	L	L	L	L	L	L	L	H	L	H	L	L	H	L	INVALIDATE HOLD & UNJAM HOLD	
H	H	L	L	L	L	L	L	L	H	L	H	L	L	H	L	INTLK READ.WCHK INTLK READ.NOCHK READ.V. NEW PC	
H	H	L	L	L	L	L	L	L	H	L	H	L	L	H	L	READ.V. IBCHK READ.V. WCHK READ.V. NOCHK	FORCE INTLK READ IF PA29=1
H	H	L	L	L	L	L	L	L	H	L	H	L	L	H	L	READ.V. RCHK INTLK WRITE.V. XCHK WRITE.V. WCHK WRITE.V. NOCHK	FORCE INTLK WRITE IF PA29=1
H	H	L	L	L	L	L	L	L	H	L	H	L	L	H	L	TEST.WCHK MEMORY NOP TEST.RCHK	

A9	A8	A7	A6	A5	A4	A3	A2	A1	A0	D3	D2	D1	D0	COMMENTS
H	L	L	L	H	L	L	L	H	H	L	L	L	L	ISR
H	L	L	L	H	L	L	L	L	H	L	L	L	L	ISR
H	L	L	L	H	L	L	L	L	H	L	L	L	L	ISR
H	L	L	L	H	L	L	L	L	H	L	L	L	L	ISR
H	L	L	L	H	L	L	L	L	H	L	L	L	L	ISR
H	L	L	L	H	L	L	L	L	H	L	L	L	L	ISR
L	L	H	L	H	L	L	L	L	H	L	L	L	L	NO RESPONSE, RETRY
L	L	H	L	H	L	L	L	L	H	L	L	L	L	ACK
L	L	H	L	H	L	L	L	L	H	L	L	L	L	BSY
L	L	H	L	H	L	L	L	L	H	L	L	L	L	ERR
L	L	H	L	H	L	L	L	L	H	L	L	L	L	NR, TIMEOUT
L	L	H	L	H	L	L	L	L	H	L	L	L	L	ACK, TIMEOUT
L	L	H	L	H	L	L	L	L	H	L	L	L	L	BSY, TIMEOUT
L	L	H	L	H	L	L	L	L	H	L	L	L	L	ERR, TIMEOUT
L	L	H	L	H	L	L	L	L	H	L	L	L	L	NR
L	L	H	L	H	L	L	L	L	H	L	L	L	L	ACK
L	L	H	L	H	L	L	L	L	H	L	L	L	L	BSY
L	L	H	L	H	L	L	L	L	H	L	L	L	L	ERR
L	L	H	L	H	L	L	L	L	H	L	L	L	L	NR, TIMEOUT
L	L	H	L	H	L	L	L	L	H	L	L	L	L	ACK, TIMEOUT
L	L	H	L	H	L	L	L	L	H	L	L	L	L	BSY, TIMEOUT
L	L	H	L	H	L	L	L	L	H	L	L	L	L	ERR, TIMEOUT
L	L	H	L	H	L	L	L	L	H	L	L	L	L	NR
L	L	H	L	H	L	L	L	L	H	L	L	L	L	ACK
L	L	H	L	H	L	L	L	L	H	L	L	L	L	BSY
L	L	H	L	H	L	L	L	L	H	L	L	L	L	ERR
L	L	H	L	H	L	L	L	L	H	L	L	L	L	NR, TIMEOUT
L	L	H	L	H	L	L	L	L	H	L	L	L	L	ACK, TIMEOUT
L	L	H	L	H	L	L	L	L	H	L	L	L	L	BSY, TIMEOUT
L	L	H	L	H	L	L	L	L	H	L	L	L	L	ERR, TIMEOUT
L	L	L	H	H	L	L	L	L	H	L	L	L	L	NR
L	L	L	H	H	L	L	L	L	H	L	L	L	L	ACK
L	L	L	H	H	L	L	L	L	H	L	L	L	L	BSY
L	L	L	H	H	L	L	L	L	H	L	L	L	L	ERR
L	L	L	H	H	L	L	L	L	H	L	L	L	L	NR, TIMEOUT
L	L	L	H	H	L	L	L	L	H	L	L	L	L	ACK, TIMEOUT
L	L	L	H	H	L	L	L	L	H	L	L	L	L	BSY, TIMEOUT
L	L	L	H	H	L	L	L	L	H	L	L	L	L	ERR, TIMEOUT

REV. E
M8218-0-1

REVISIONS		
CHK	CHANGE NO.	REV

MEMORY CONTROL
FIELD FROM U WORD

NOTE: FOR MORE DETAIL SEE LOGIC
PAGE SBLT AND PROM CHARTS
CHART CONTINUED ON NEXT
SHEET

X = DON'T CARE

IN	DATE	NO.	NAME
E	1	0	M8218-0-1
D	CS		

(STALL CHART) SH 2 OF 2 (SLOT 2)

TITLE	SIZE CODE	NUMBER	REV.
SBI INTERFACE LOW BITS	D CS	M8218-0-1-	E
SCALE <u>1/1</u>	SHEET <u>25</u> OF <u>27</u>	DIST.	

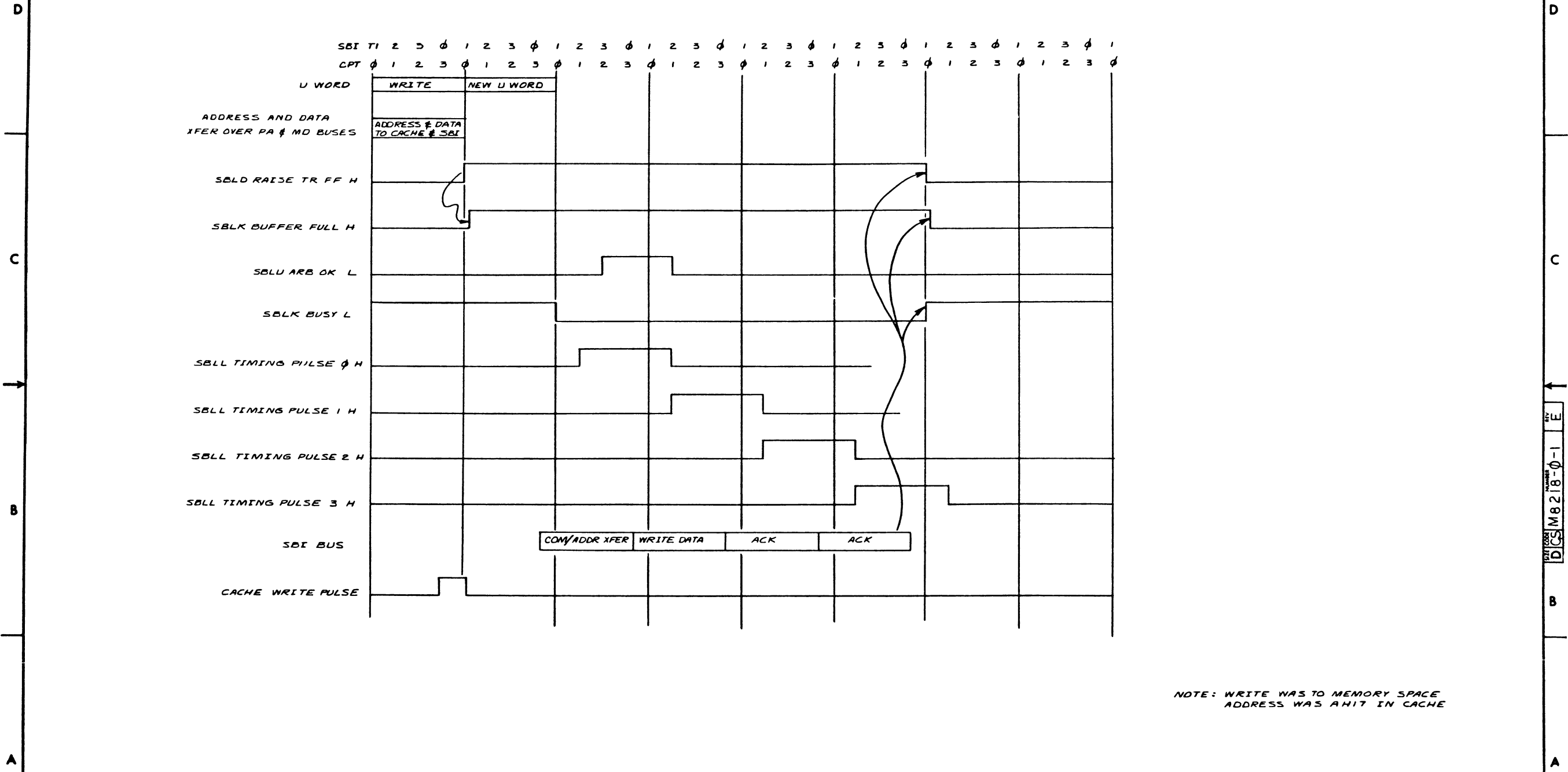
2
TW
1

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

DCS M8218-0-1

2

1



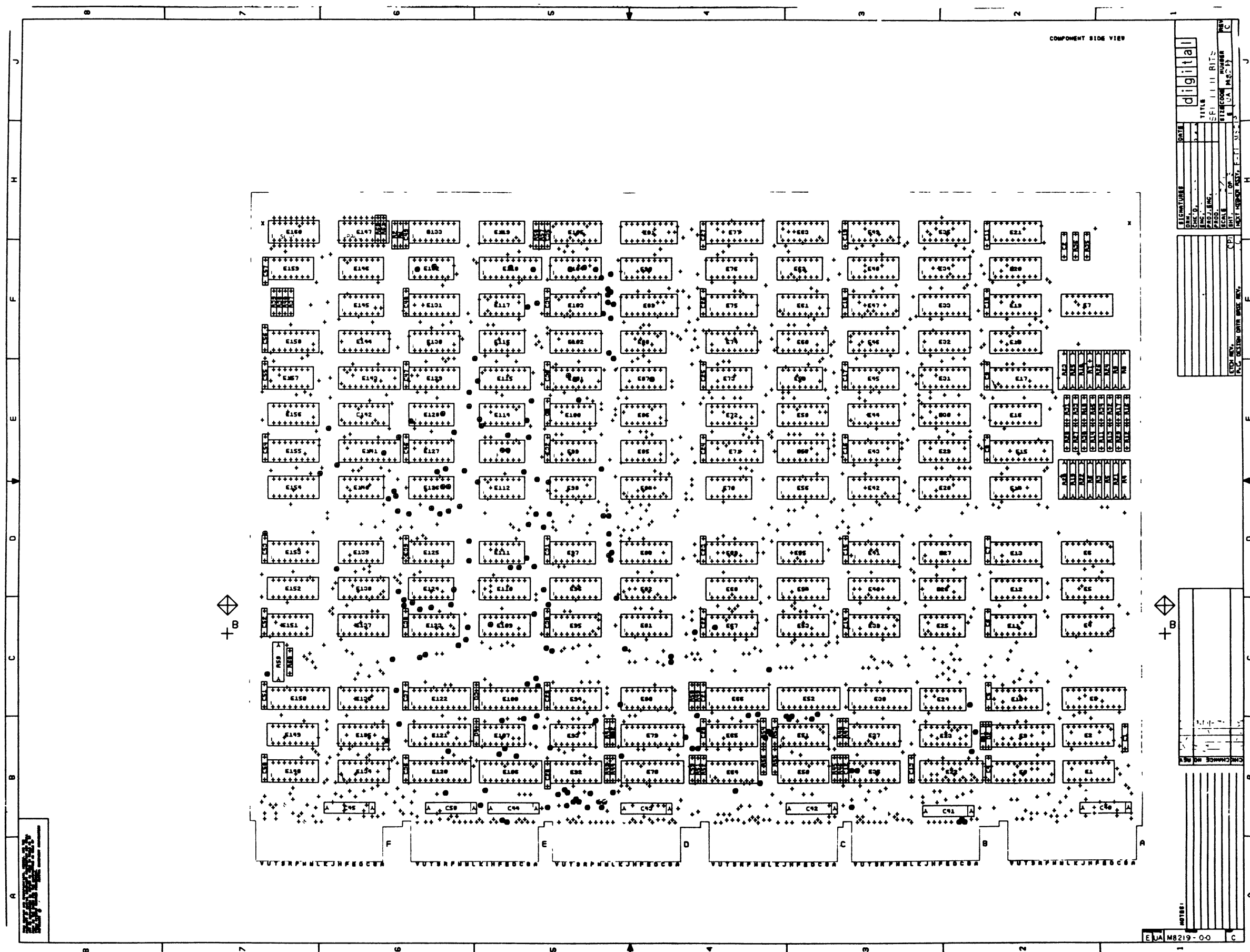
NOTE: WRITE WAS TO MEMORY SPACE ADDRESS WAS A HIT IN CACHE

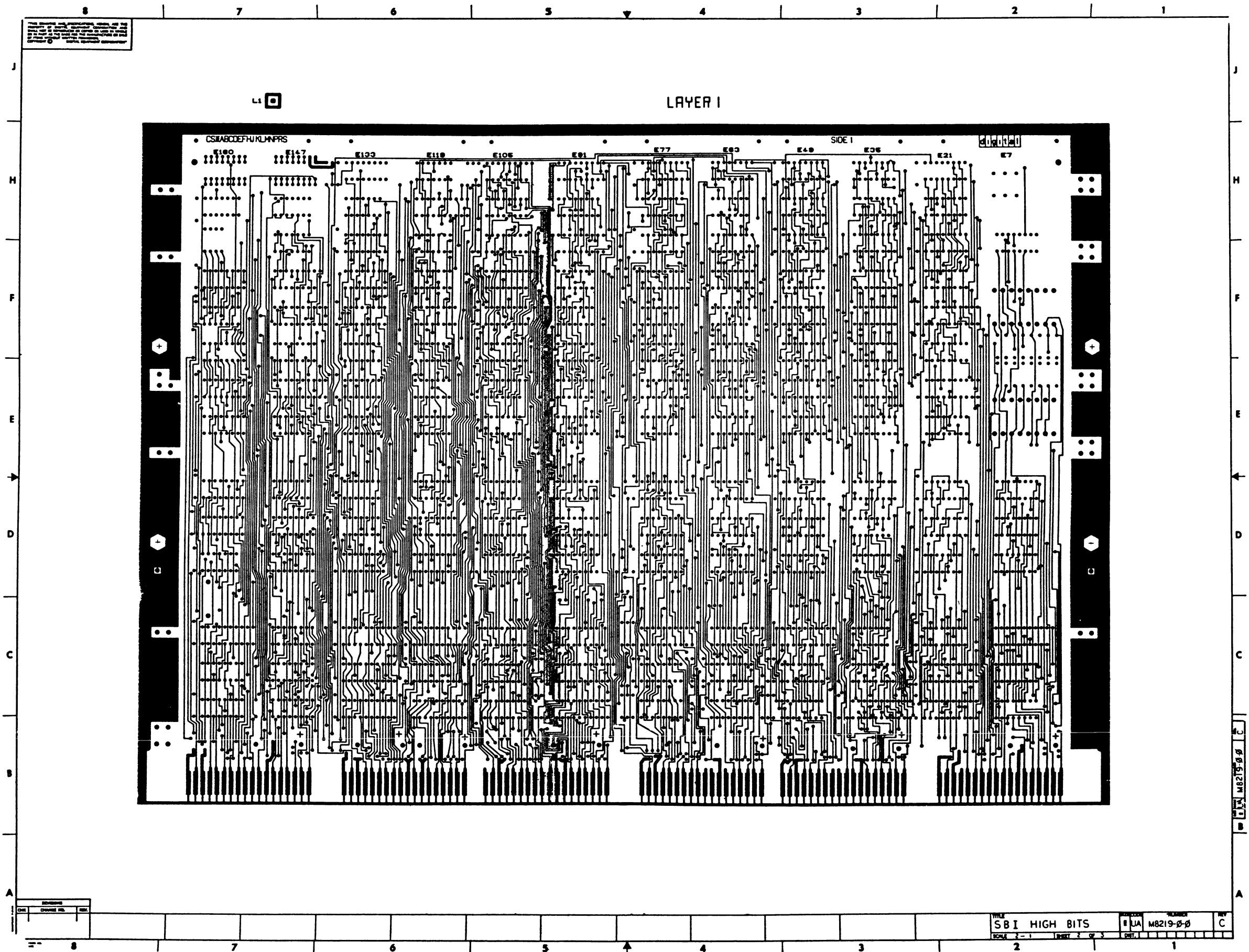
REVISIONS		
CHK	CHANGE NO.	REV.

(CPU WRITE TIMING)

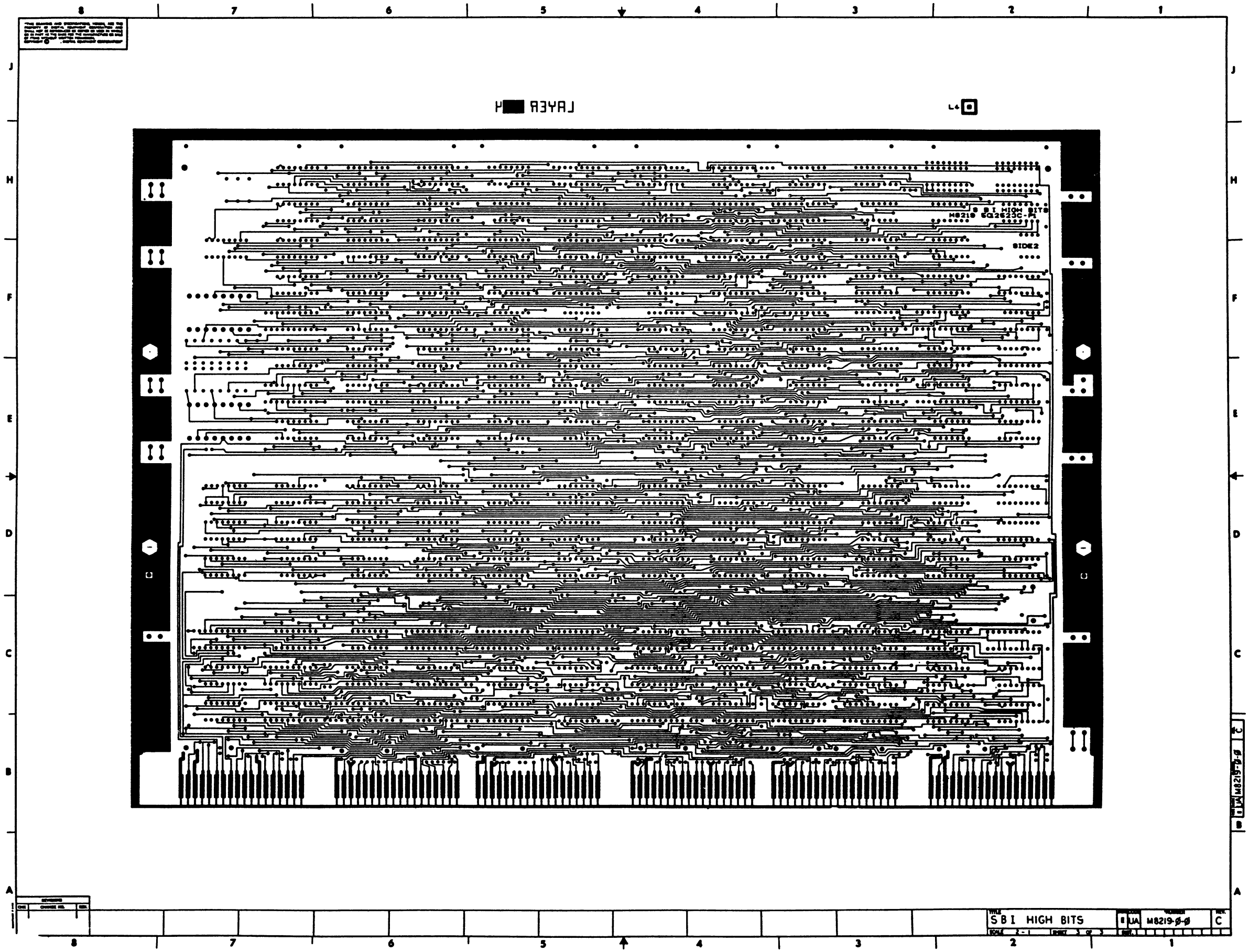
(SLOT 2)

TITLE		SIZE	CODE	NUMBER	REV.
SBI INTERFACE LOW BITS		DCS	M8218-0-1	E	
SCALE		SHEET	27 OF 27	DIST.	





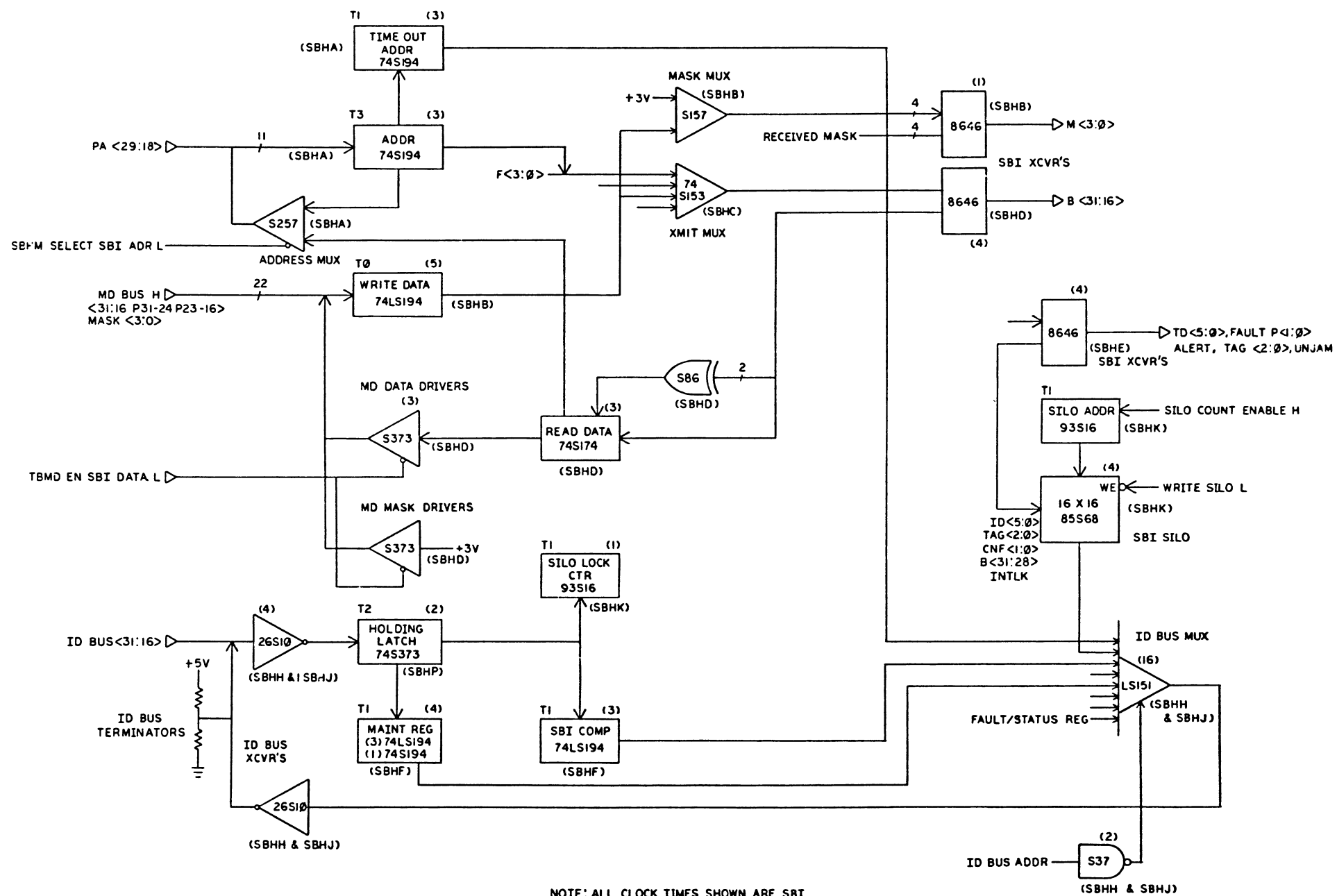
SBI HIGH BITS
M8219-0-0
C



LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
22	22		1913788-00	26S10 TRANSCEIVER,BUS,QUAD	4	E14,E16,E30,E31
23	23		1912586-00	DM 85S68N REGISTER,64BIT EDGE TRIG,TRIST	4	E71,F77,E89,E91
24	24		1910957-00	74S175 FF-D QUAD COMMON CLOCK	1	E101
25	25		1912865-00	LS283 ADDER-48IT BINARY FULL W/FAST	1	E158
26	26		1912089-00	74S85 CMPRTR-48IT MAGNITUDE 16P	4	E63,E90,E104,E130
27	27		1911675-00	74S138 DECODER-THREE INPUT	3	E82,E96,E110
28	28		1912842-00	LS138 DECODER-THREE INPUT,16PIN	1	E142
29	29		1913294-00	93S16 COUNTER,SYNCH UP BINARY	2	E105,E56
30	30		1911415-00	10125 ECL TO TTL TRNSLTR ECL 16 P	4	F51,E64,E65,E92
31	31		1913839-00	74LS165 SHIFT REG.,8BIT	8	E4,E53,E80,E94,E109,E138,E152, CONT E153
32	32		1911573-00	74S280 PARITY GEN/CHKR,98IT ODD/EVEN	4	E11,E24,F93,E107
33	33		1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	3	F117,E124,E127
34	34		1912096-00	DEC 74S06 XOR GATE,QUAD 2IN	2	E25,E119
35	35		1910534-00	74S04 INVERTER GATE-HFX 1IN	9	F26,F55,F87,E88,E98,E111,E126, CONT E157,E159
36	36		1910532-00	74S00 NAND GATE-QUAD 2IN8	4	E146,E86,E125,E145
37	37		1912389-00	74S08 AND GATE-QUAD 2IN,POS 14	6	E62,E73,E116,E132,E140,E59
38	38		1910545-00	74S112 FF-JK DUAL,EDGE TRIGGER	3	F72,E74,E115
39	39		1912388-00	74S02 NOR GATE-QUAD 2IN,POS	2	E113,E128
40	40		1910539-00	74S20 NAND GATE-DUAL 4INPUT	3	E70,E85,E100
41	41		1910536-00	74S10 NAND GATE-TRIPLE 3IN	2	E99,E112
42	42		1910544-00	74S74 FF-D DUAL,EDGE TRIGGER	3	F97,E114,E139
43	43		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,UNIBUS,Q-BU	1	F151
44	44			SPARES	3	E50,E160,E147
45	45		23189A1-00	A1-07 PROM,	1	F144
46	46		23437A2-00	A2-05 PROM,	1	E155
47	47		23438A2-00	A2-05 PROM,	1	E156
48	48		1210711-02	HANDLE,HEX MODULE,10-1/2 S	1	
49	49		9000024-01	EYELET, BOLTED FLANGE, .121 OD X .196 LG	12	
50	50		1302957-00	121 1/4W 1% RN55D-F 100PPM (13-00	1	R62

DIGITAL EQUIPMENT CORPORATION	TITLE	PARTS LIST	SIZE	CODE	DOCUMENT NUMBER	REV
MAYNARD, MASSACHUSETTS		SRI HIGH BITS	K	PL	M8219-0-DHP	C

"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION"



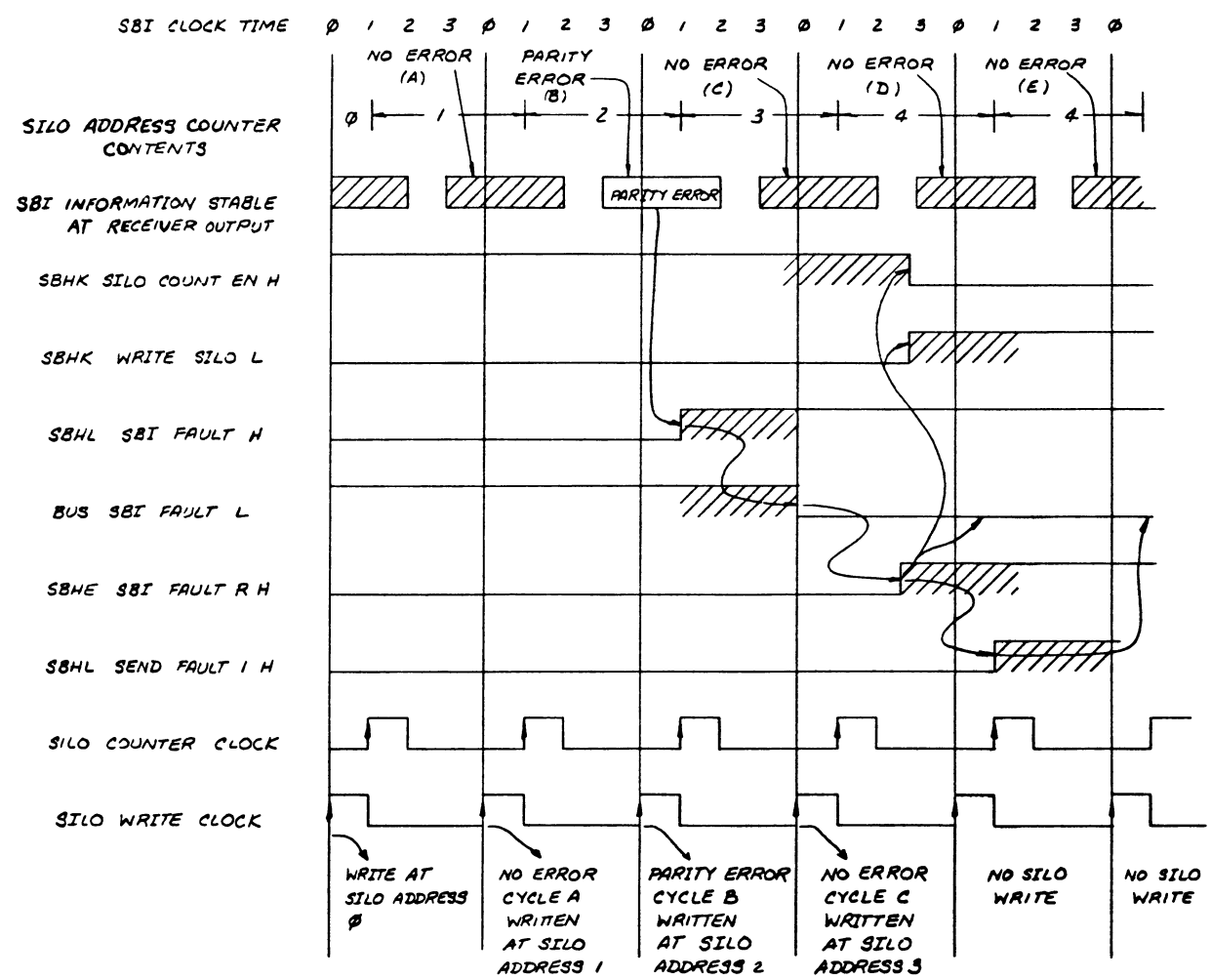
BLOCK DIAGRAM (SLOT 3)

DRN. L. CHILDS	DATE 7/7	FIRST USED ON	digital
CHK'D BY	6/76	TITLE	SBI INTERFACE
ENGR'D BY	6-16-7	NUMBER	1
PROL. ENGR'D BY	6-16-7	REV.	D
PROC'D BY	6-16-7	SIZE	D CS
NEXT HIGHER ASSY.		DIST.	
SCALE	++		
SHEET	1 OF 19		

A

"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

1-0-6128W SCS 2



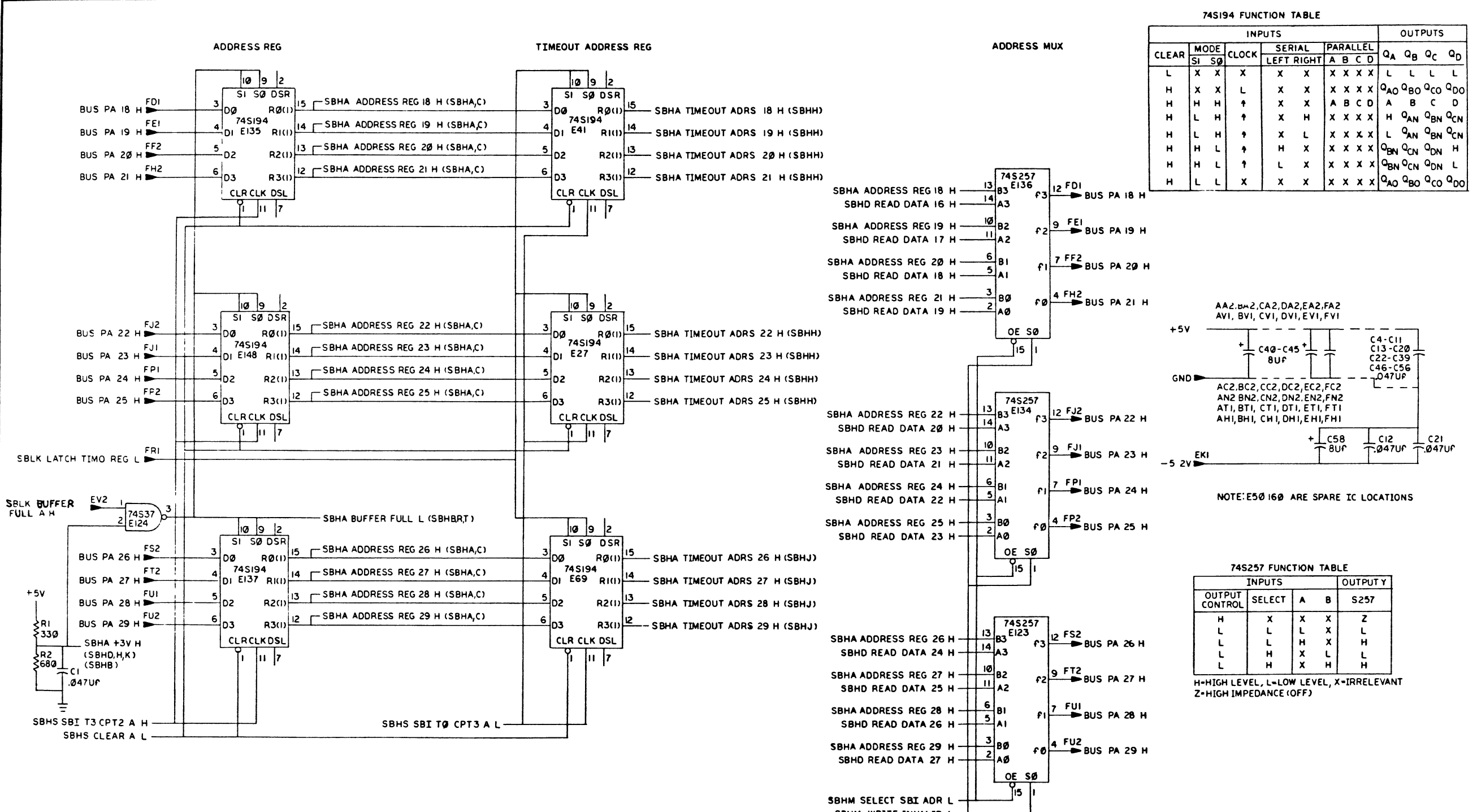
REVISIONS		
CHK	CHANGE NO.	REV.

(SBI FAULT TIMING)

(SLOT 3)

TITLE SBI INTERFACE HIGH BITS		SIZE CODE DCS	NUMBER M8219-0-1	REV. 0
SCALE		SHEET 2 OF 2		DET.

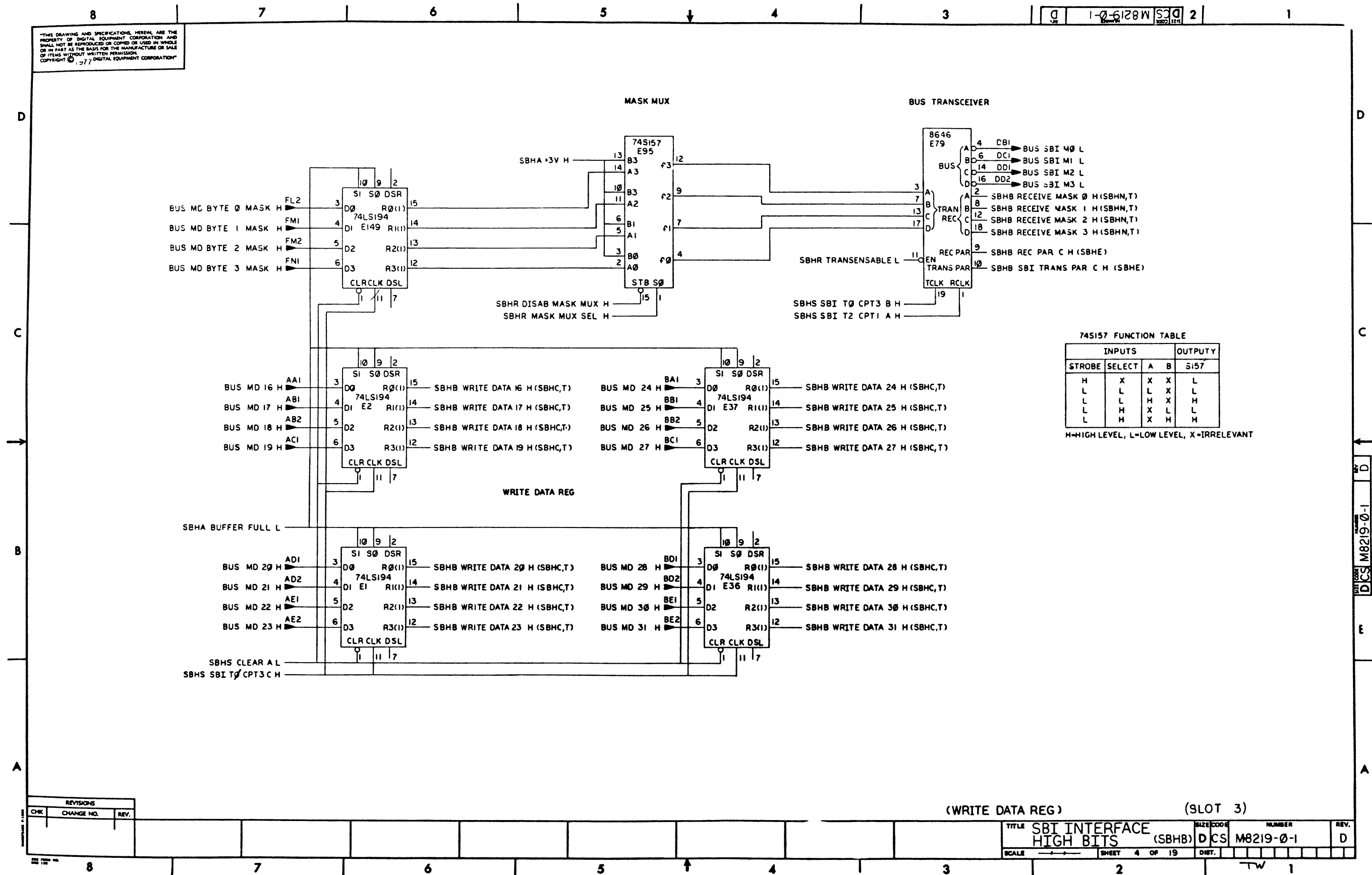
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



74S194 FUNCTION TABLE													
INPUTS						OUTPUTS							
CLEAR	MODE		CLOCK	SERIAL	PARALLEL			Q _A	Q _B	Q _C	Q _D		
	S _I	S ₀		LEFT	RIGHT	A	B					C	D
L	X	X	X	X	X	X	X	X	L	L	L	L	
H	X	X	L	X	X	X	X	X	L ^{Q_{AO}}	L ^{Q_{BO}}	L ^{Q_{CO}}	L ^{Q_{DO}}	
H	H	H	↑	X	X	A	B	C	D	A	B	C	D
H	L	H	↑	X	H	X	X	X	X	H ^{Q_{AN}}	H ^{Q_{BN}}	H ^{Q_{CN}}	H ^{Q_{DN}}
H	L	H	↑	X	L	X	X	X	X	L ^{Q_{AN}}	L ^{Q_{BN}}	L ^{Q_{CN}}	L ^{Q_{DN}}
H	H	L	↑	H	X	X	X	X	X	H ^{Q_{BN}}	H ^{Q_{CN}}	H ^{Q_{DN}}	H
H	H	L	↑	L	X	X	X	X	X	L ^{Q_{BN}}	L ^{Q_{CN}}	L ^{Q_{DN}}	L
H	L	L	X	X	X	X	X	X	X	L ^{Q_{AO}}	L ^{Q_{BO}}	L ^{Q_{CO}}	L ^{Q_{DO}}

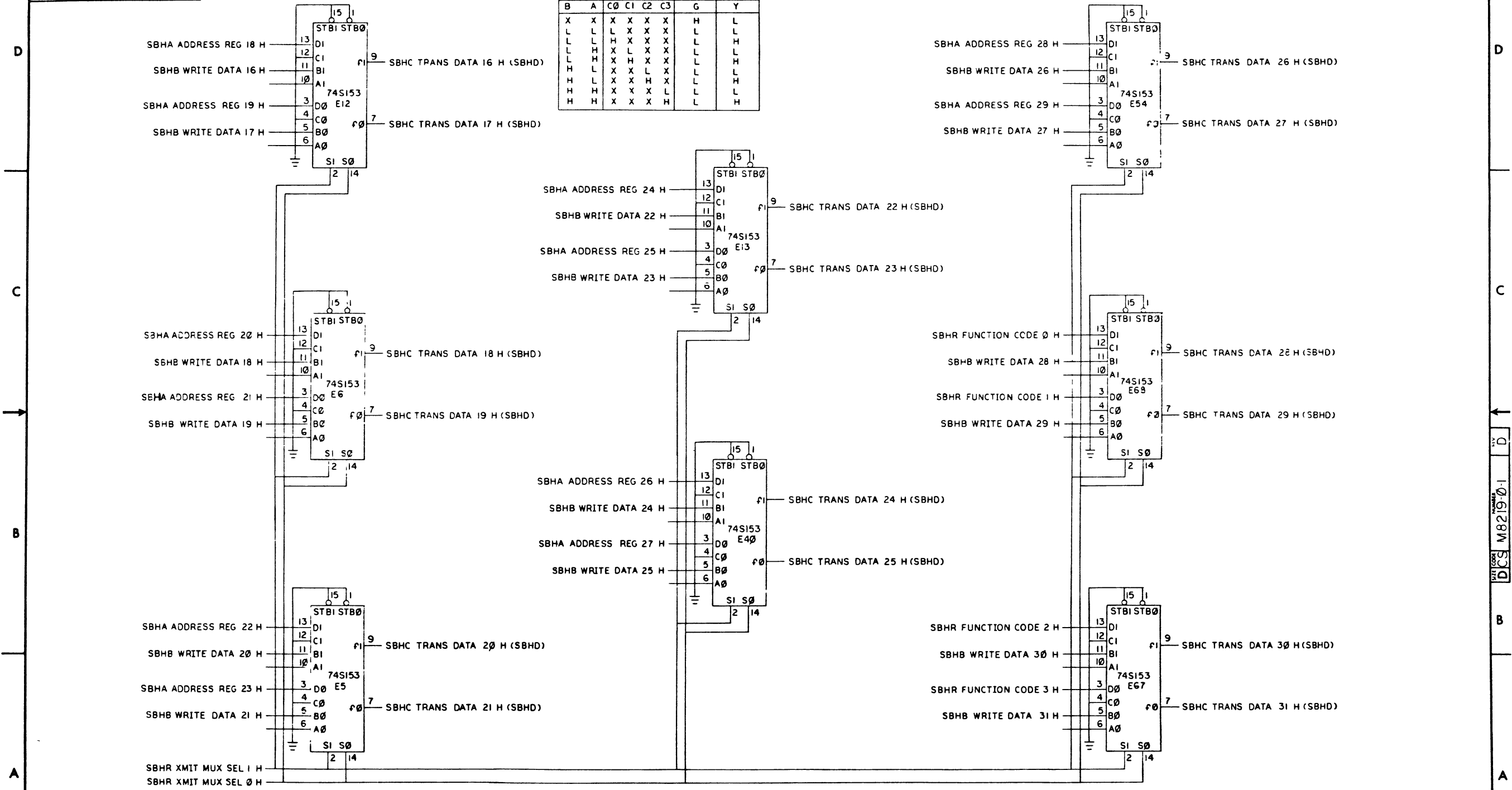
74S257 FUNCTION TABLE				
OUTPUT CONTROL	SELECT	A	B	S257
H	X	X	X	Z
L	L	L	X	L
L	L	H	X	H
L	L	X	X	L
L	L	X	H	H

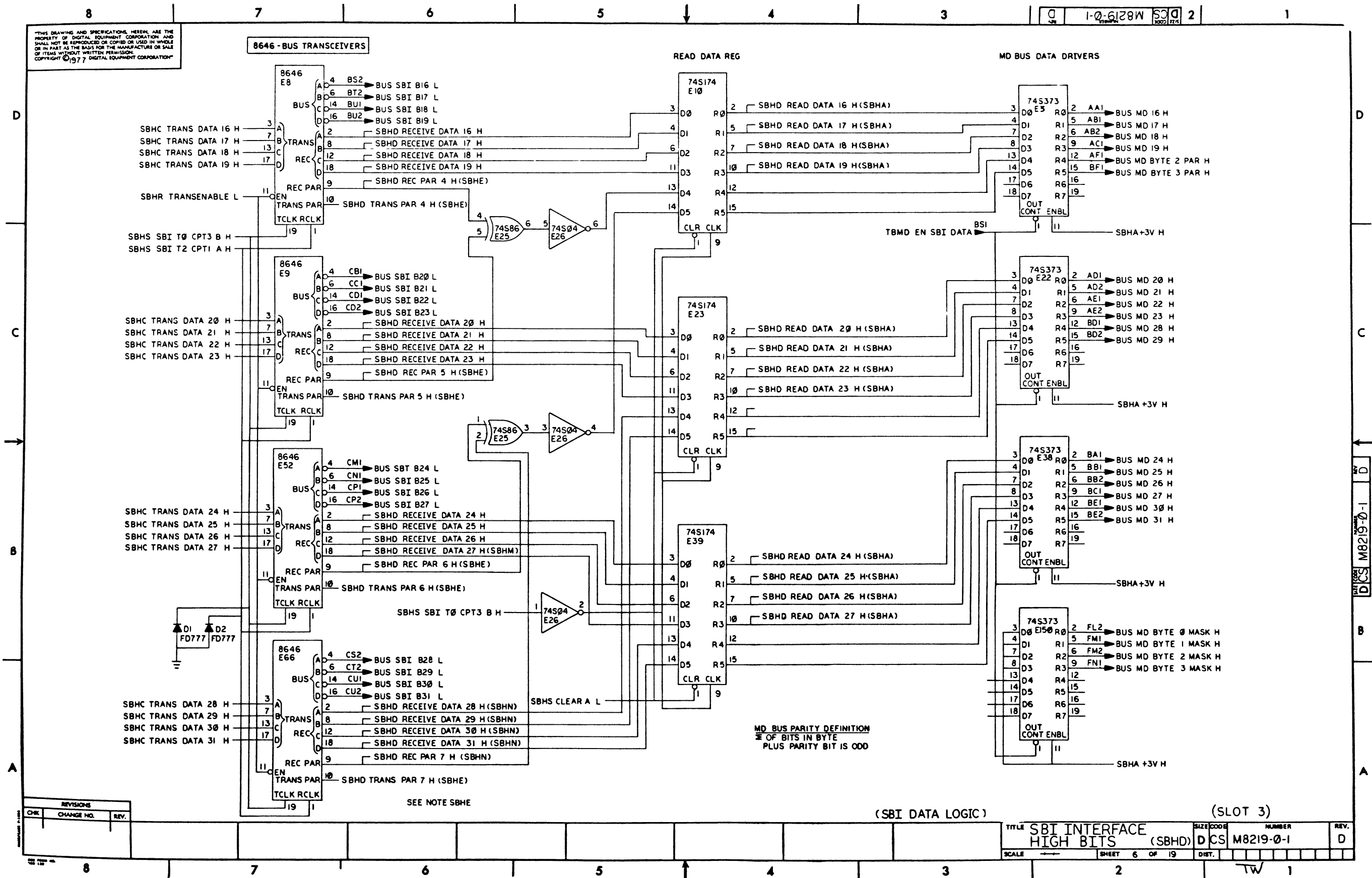
H=HIGH LEVEL, L=LOW LEVEL, X=IRRELEVANT
Z=HIGH IMPEDANCE (OFF)

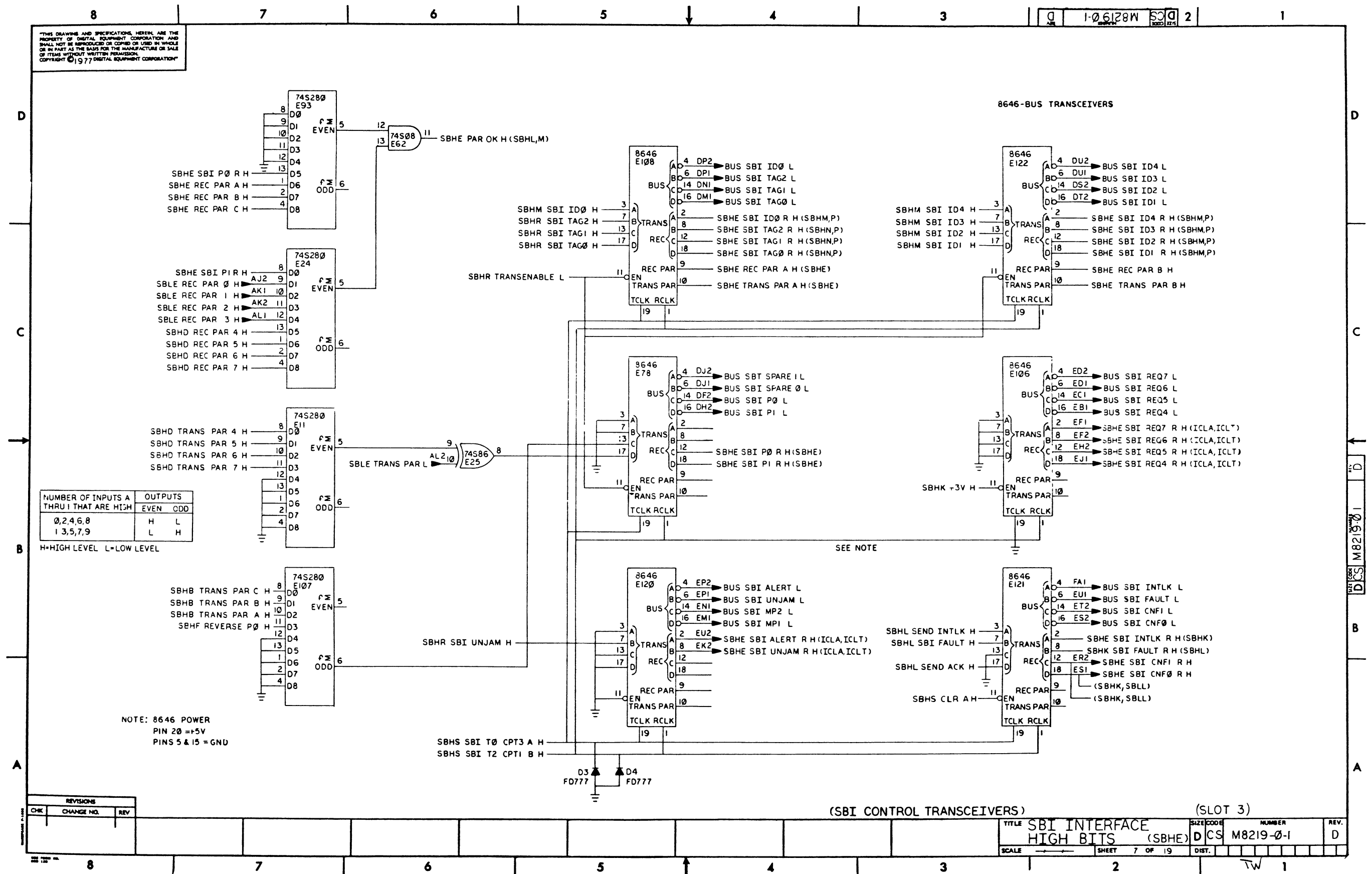


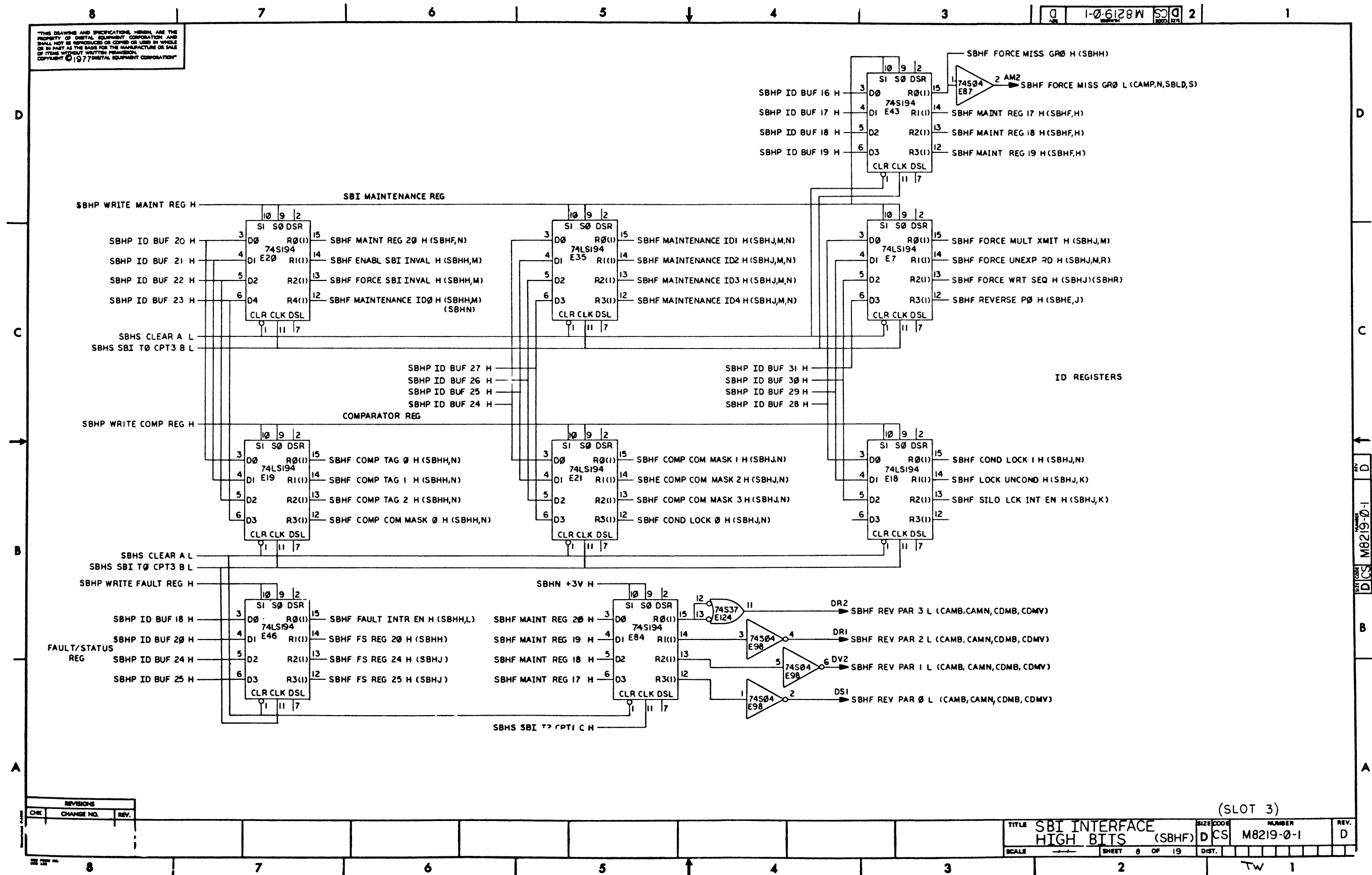
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

SELECT INPUTS		DATA INPUTS				STROBE	OUTPUT
B	A	C0	C1	C2	C3	G	Y
X	X	X	X	X	X	H	L
L	L	L	X	X	X	L	L
L	L	H	X	X	X	L	H
L	H	X	L	X	X	L	L
L	H	X	H	X	X	L	H
H	L	X	X	L	X	L	L
H	L	X	X	H	X	L	H
H	H	X	X	X	L	L	L
H	H	X	X	X	H	L	H









THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

INPUTS		OUTPUTS	
SELECT	STROBE	Y	W
S2 S1 S0	S		
5 4 3			
74LS151			
X X X	H	L	H
L L L	L	D0	D0
L L H	L	D1	D1
L H L	L	D2	D2
L H H	L	D3	D3
H L L	L	D4	D4
H L H	L	D5	D5
H H L	L	D6	D6
H H H	L	D7	D7

H=HIGH LEVEL L=LOW LEVEL X=IRRELEVANT

BUS TRANSCEIVER
26S10 E14
R0 3
R1 6
R2 10
R3 14
D0
D1
D2
D3
EN 12

DO D1..D7=LEVEL OF D RESPECTIVE INPUT

SBHH ID RECEIVE 16 H (SBHP)
SBHH ID RECEIVE 17 H (SBHP)
SBHH ID RECEIVE 18 H (SBHP)
SBHH ID RECEIVE 19 H (SBHP)

AF2
AH2
AJ1
AM1

BUS ID D16 L
BUS ID D17 L
BUS ID D13 L
BUS ID D15 L

R3 120 1/2W
R4 120 1/2W
R5 120 1/2W
R6 120 1/2W
R11 270
R12 270
R13 270
R14 270

+5V

SEE NOTES PAGE SBHJ

R7 120 1/2W
R8 120 1/2W
R9 120 1/2W
R10 120 1/2W
R15 270
R16 270
R17 270
R18 270

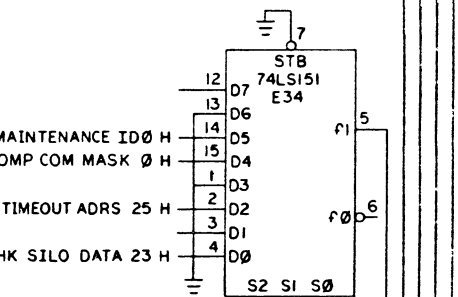
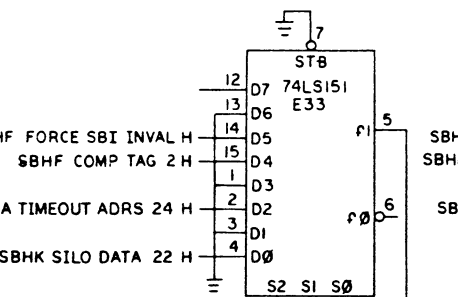
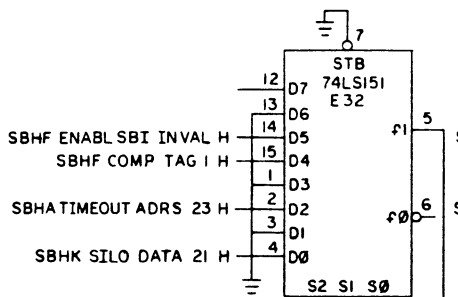
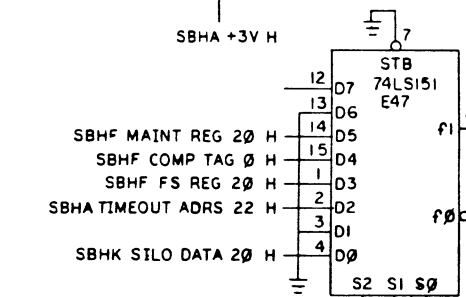
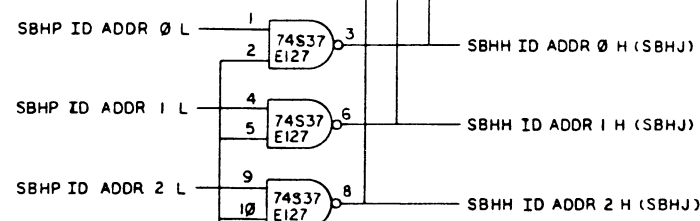
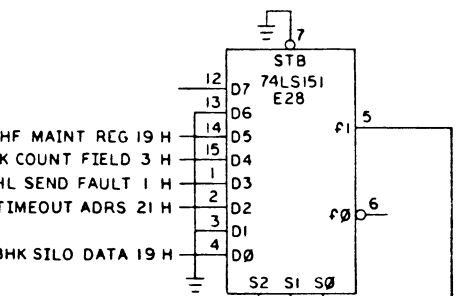
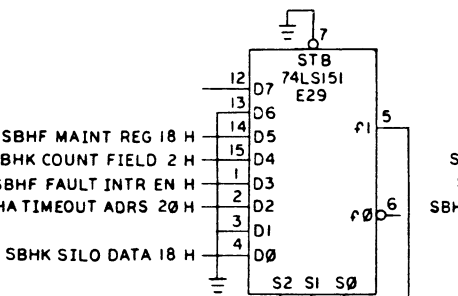
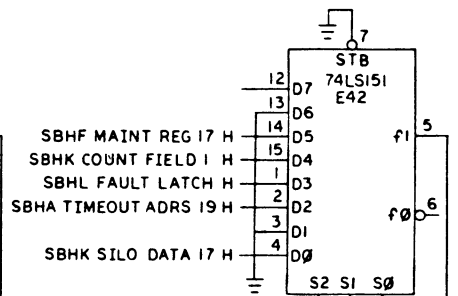
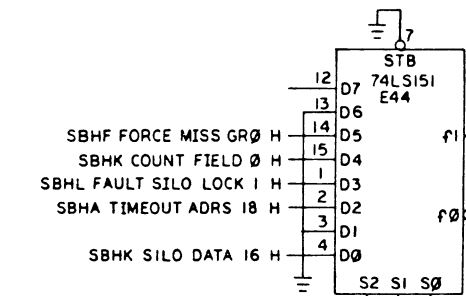
+5V

BUS TRANSCEIVER
26S10 E30
R0 3
R1 6
R2 10
R3 14
D0
D1
D2
D3
EN 12

AN1
AP1
AP2
AS2

BUS ID D20 L
BUS ID D21 L
BUS ID D22 L
BUS ID D23 L

SBHP EN ID DRIVERS L



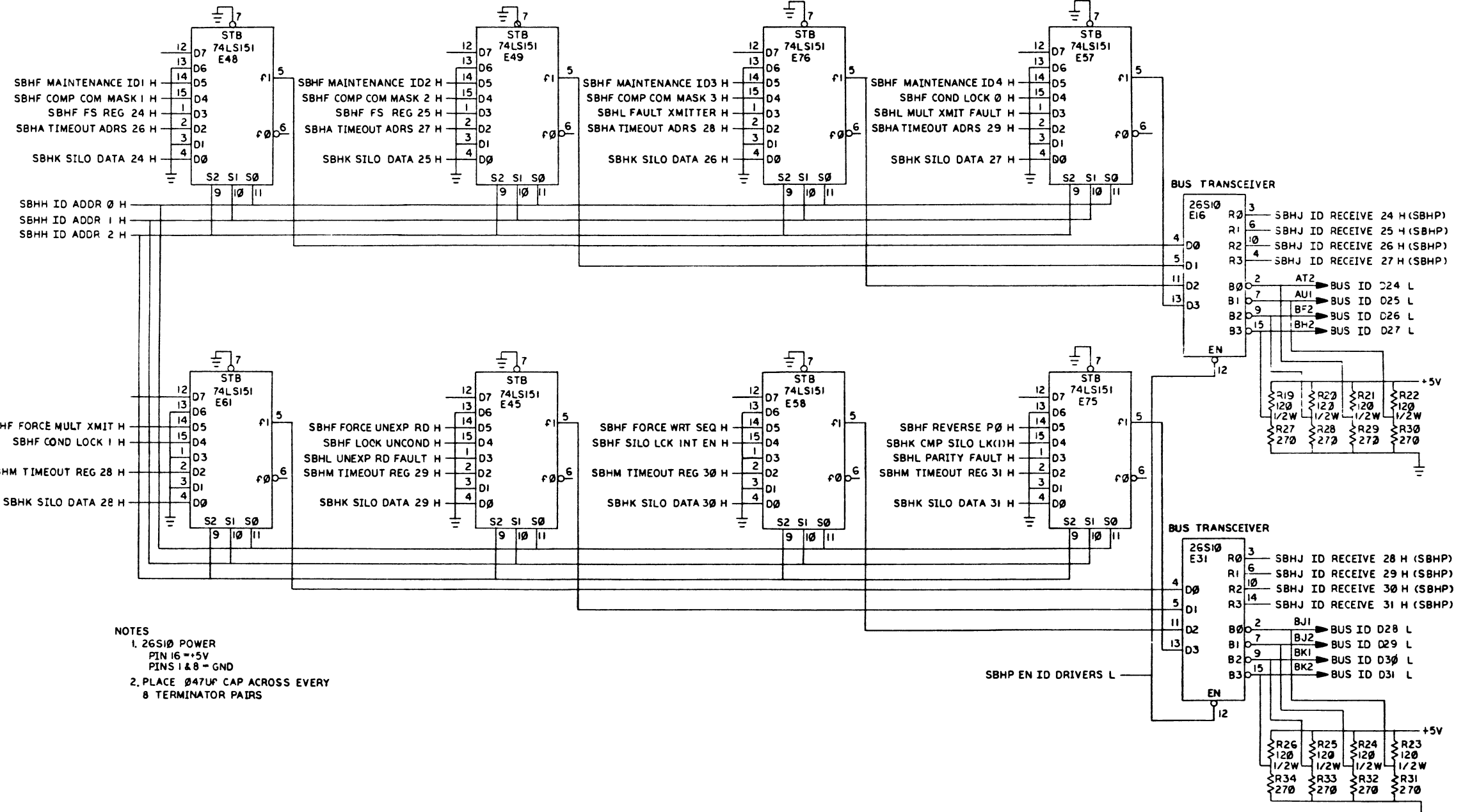
REVISIONS		
CHK	CHANGE NO.	REV.

(ID BUS MUX)

(SLOT 3)

TITLE		SIZE CODE	NUMBER	REV.
SBI INTERFACE HIGH BITS (SBHH)		DCS	M8219-0-1	D
SCALE	SHEET 9 OF 19	DIST.		

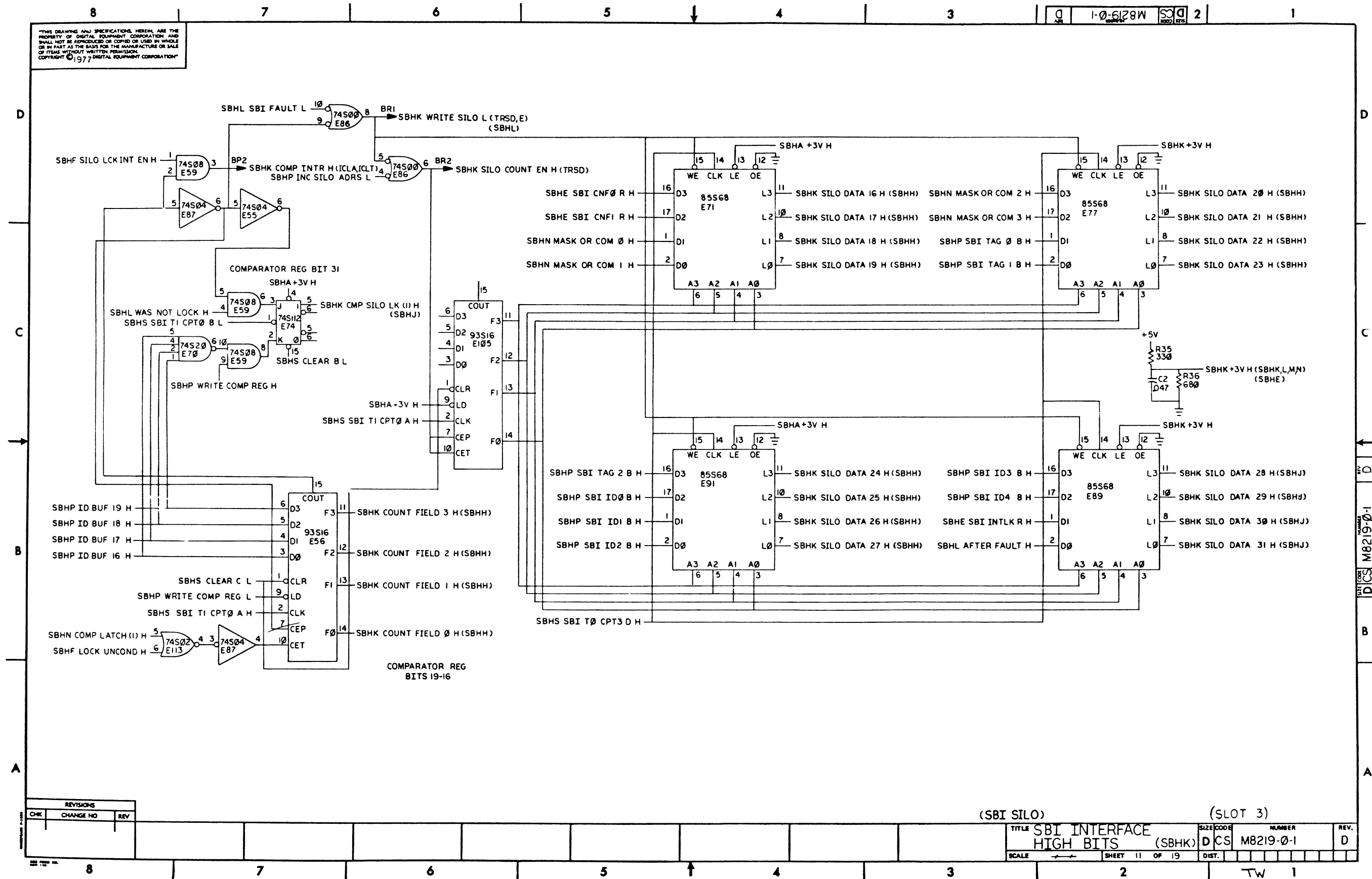
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



- NOTES
- 1. 26S10 POWER
PIN 16 = +5V
PINS 1 & 8 = GND
 - 2. PLACE .047UF CAP ACROSS EVERY
8 TERMINATOR PAIRS

REVISIONS		
CHK	CHANGE NO.	REV.

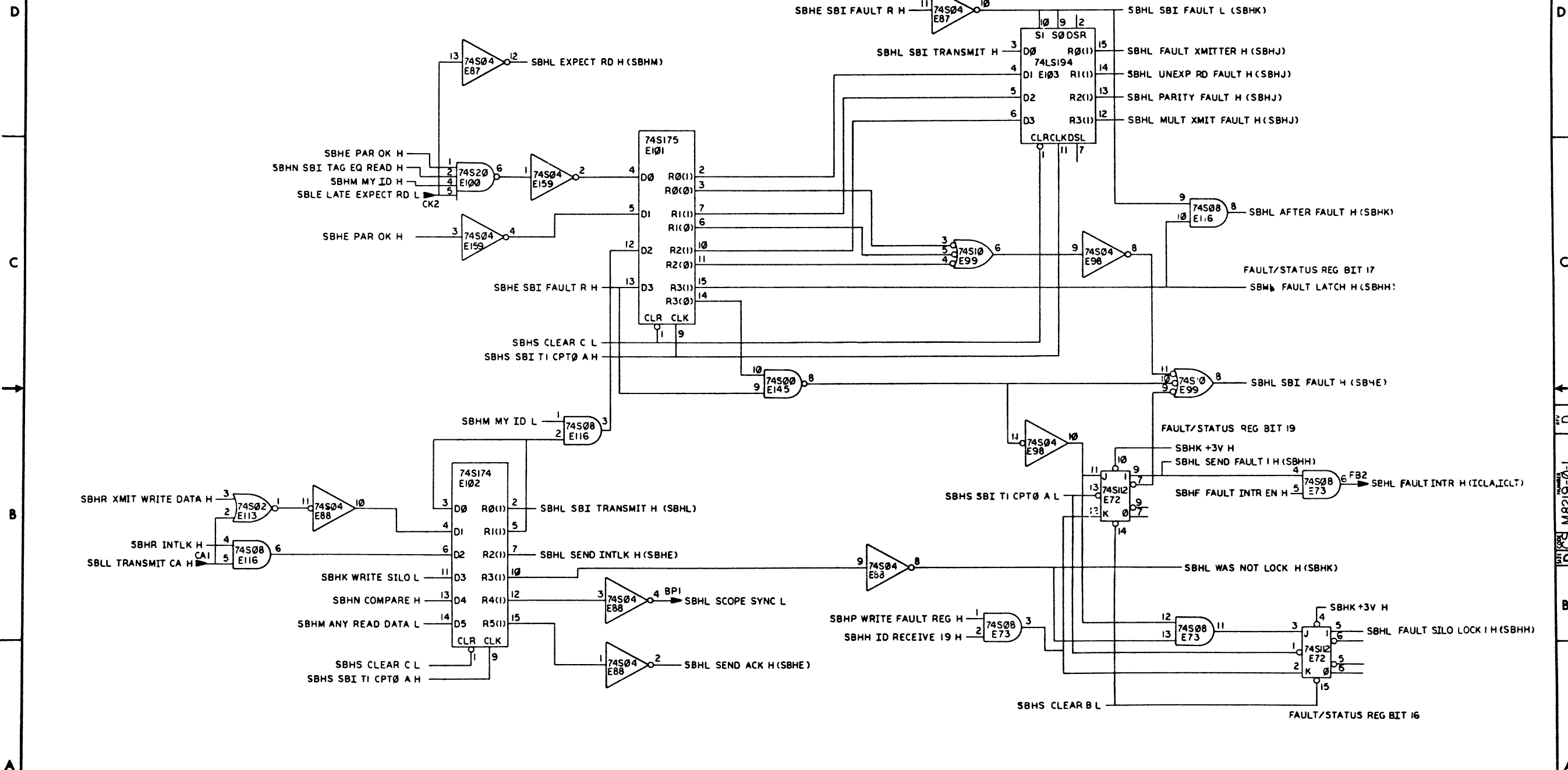
(ID BUS MUX)		(SLOT 3)	
TITLE SBI INTERFACE		SIZE CODE	
HIGH BITS (SBHJ)		NUMBER	
SCALE		D C S M8219-0-1	
SHEET 10 OF 13		REV. D	



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

8 7 6 5 4 3 2 1

D 1-0-6128W DCS M8219-0-1 2



D 1-0-6128W DCS M8219-0-1

B

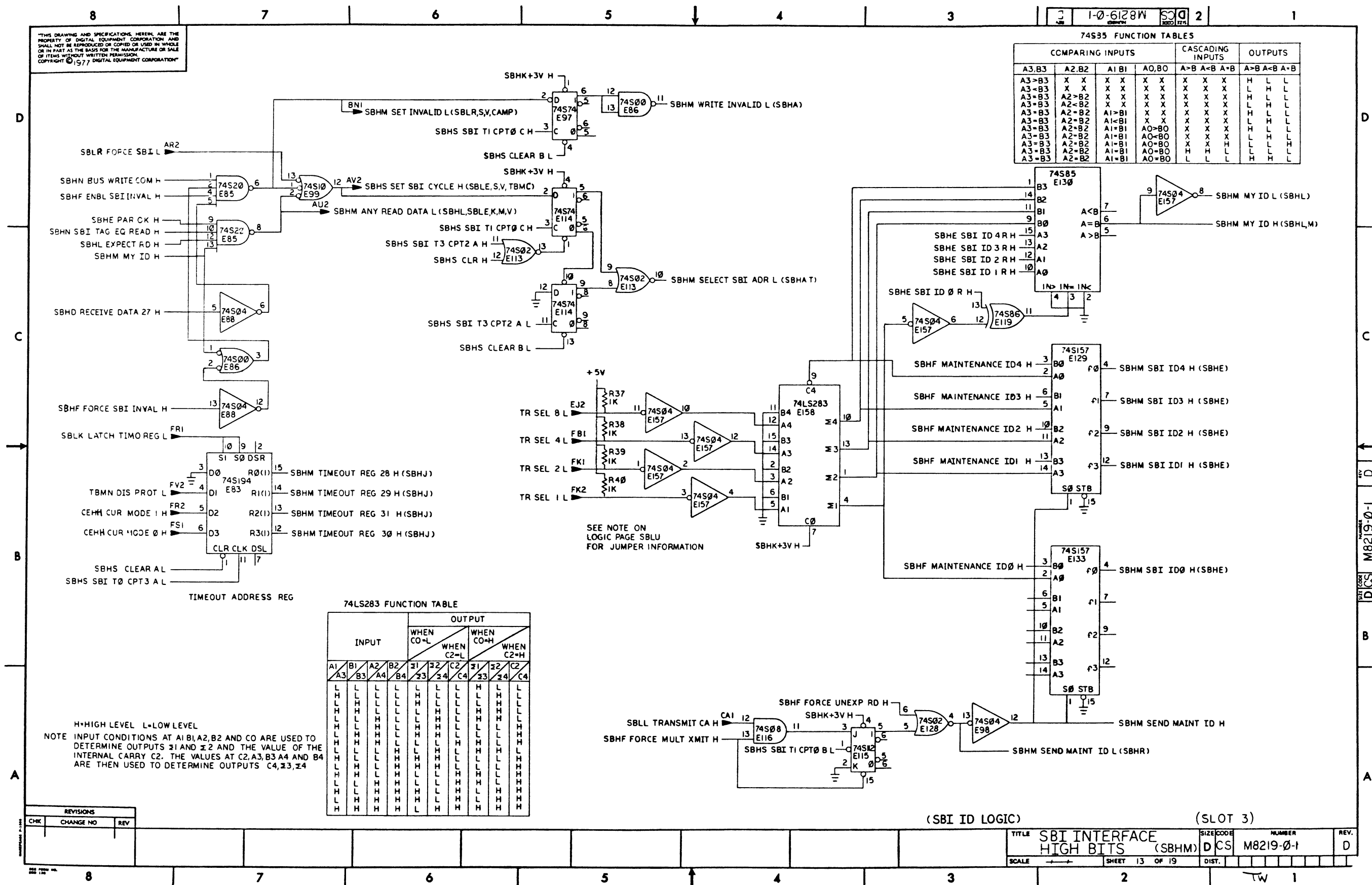
A

REVISIONS		
CHK	CHANGE NO.	REV.

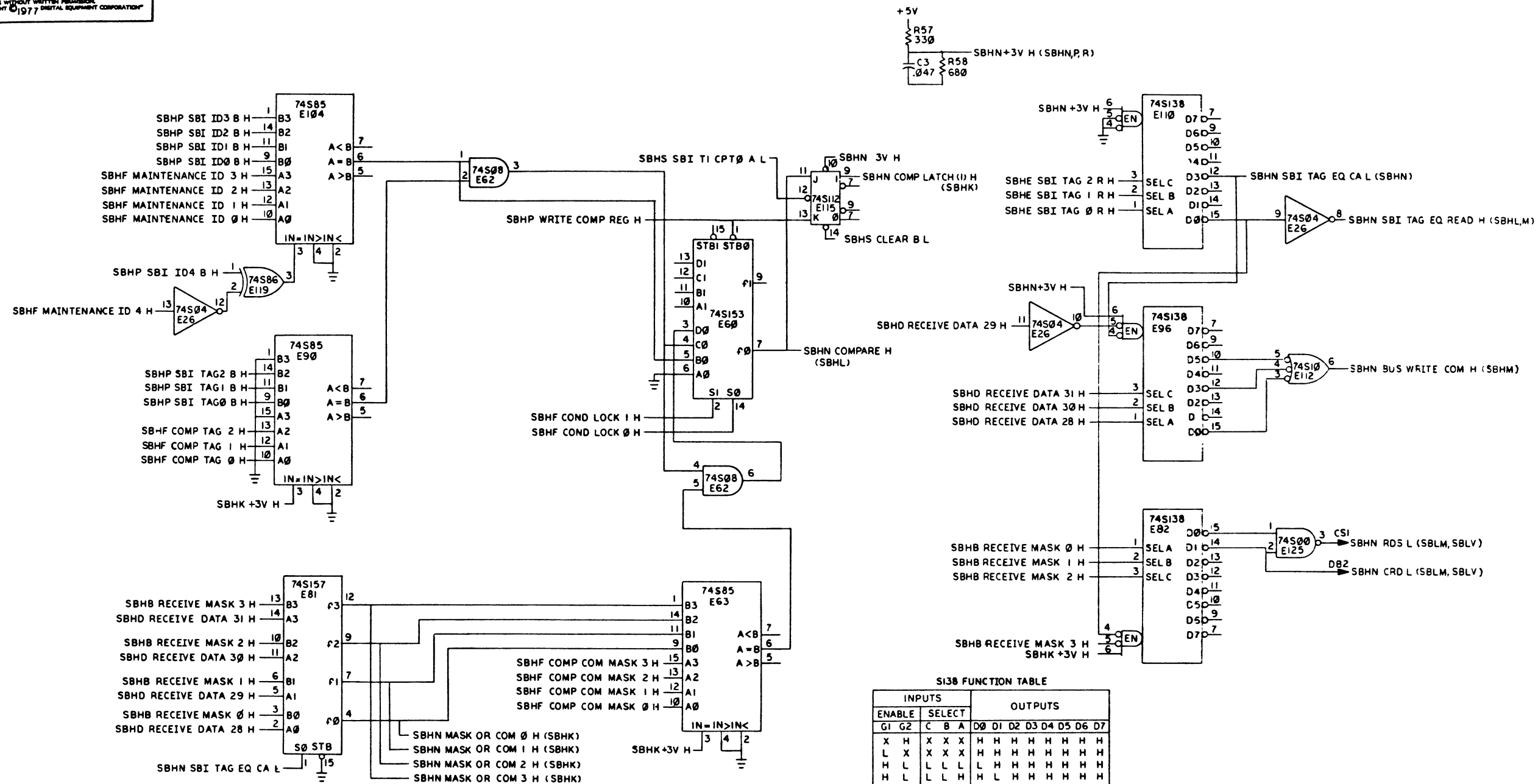
(SBI FAULT LOGIC) (SLOT 3)

TITLE		SIZE	CODE	NUMBER	REV.
SBI INTERFACE HIGH BITS (SBHL)		D	CS	M8219-0-1	D
SCALE	→	SHEET	12 OF 19	DIST.	

8 7 6 5 4 3 2 1



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION.

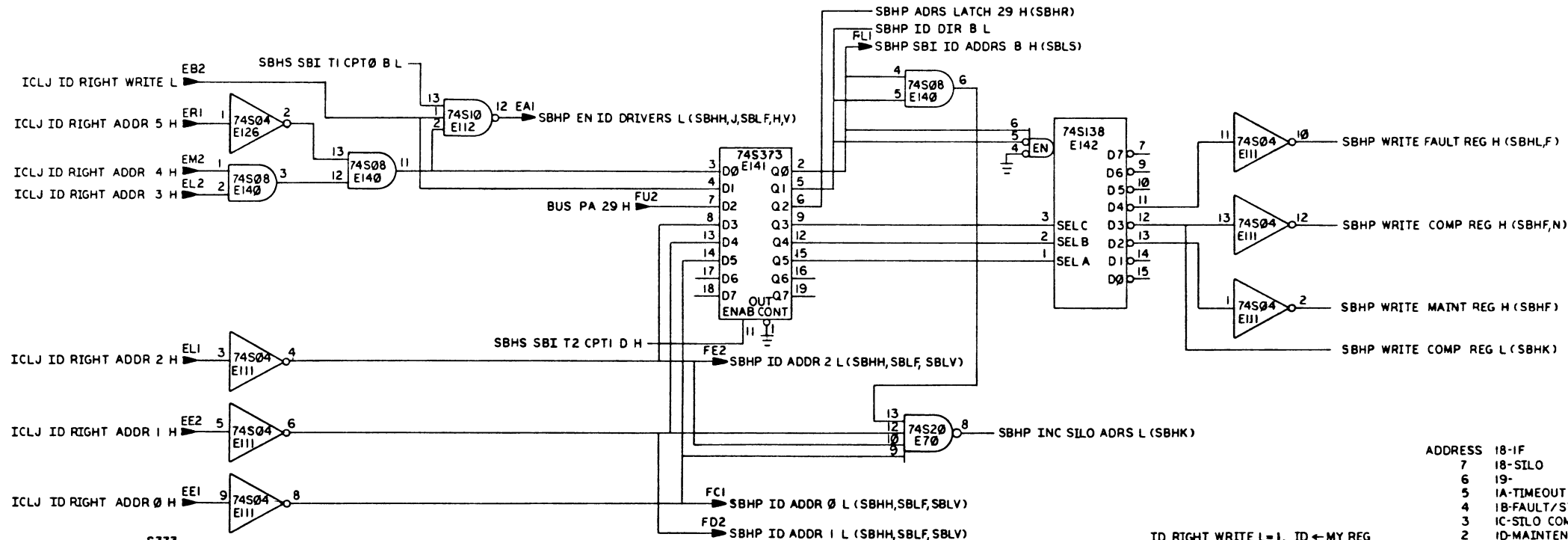
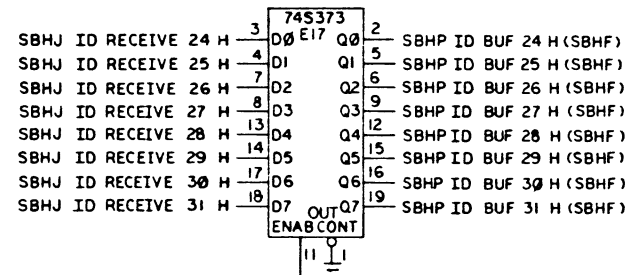
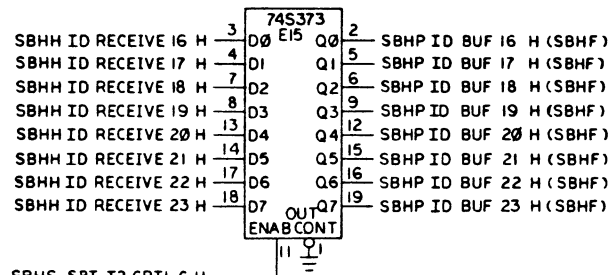
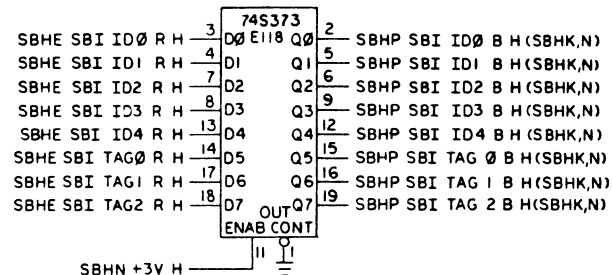


S138 FUNCTION TABLE

INPUTS				OUTPUTS							
EN	G1	G2	SELECT	D0	D1	D2	D3	D4	D5	D6	D7
X	H	X	X	X	H	H	H	H	H	H	H
L	X	X	X	X	H	H	H	H	H	H	H
H	L	L	L	L	H	H	H	H	H	H	H
H	L	L	L	H	H	L	H	H	H	H	H
H	L	L	L	H	H	H	L	H	H	H	H
H	L	L	L	H	H	H	H	L	H	H	H
H	L	L	L	H	H	H	H	H	L	H	H
H	L	L	L	H	H	H	H	H	H	L	H
H	L	L	L	H	H	H	H	H	H	H	L
H	L	L	L	H	H	H	H	H	H	H	L

H=HIGH LEVEL, L=LOW LEVEL, X=IRRELEVANT

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



S373
FUNCTION TABLE

OUTPUT CONTROL	ENABLE G	D	OUTPUT
L	H	H	H
L	H	L	L
L	L	X	Q0
H	X	X	Z

ADDRESS 18-1F
 7 18-SILO
 6 19-
 5 1A-TIMEOUT ADDRESS
 4 1B-FAULT/STATUS
 3 1C-SILO COMPARATOR
 2 1D-MAINTENANCE REG
 1 1E-
 0 1F-

ID RIGHT WRITE L=1, ID ← MY REG
 =0, MY REG ← ID

REV. D
 CS M8219-0-1

B

A

REV.	CHANGE NO.	REV.
1	1	1

(ID ADDRESS DECODE)

(SLOT 3)

TITLE	SIZE CODE	NUMBER	REV.
SBI INTERFACE HIGH BITS (SBHP)	D CS	M8219-0-1	D
SCALE	SHEET 15 OF 19	DIST.	

8

7

6

5

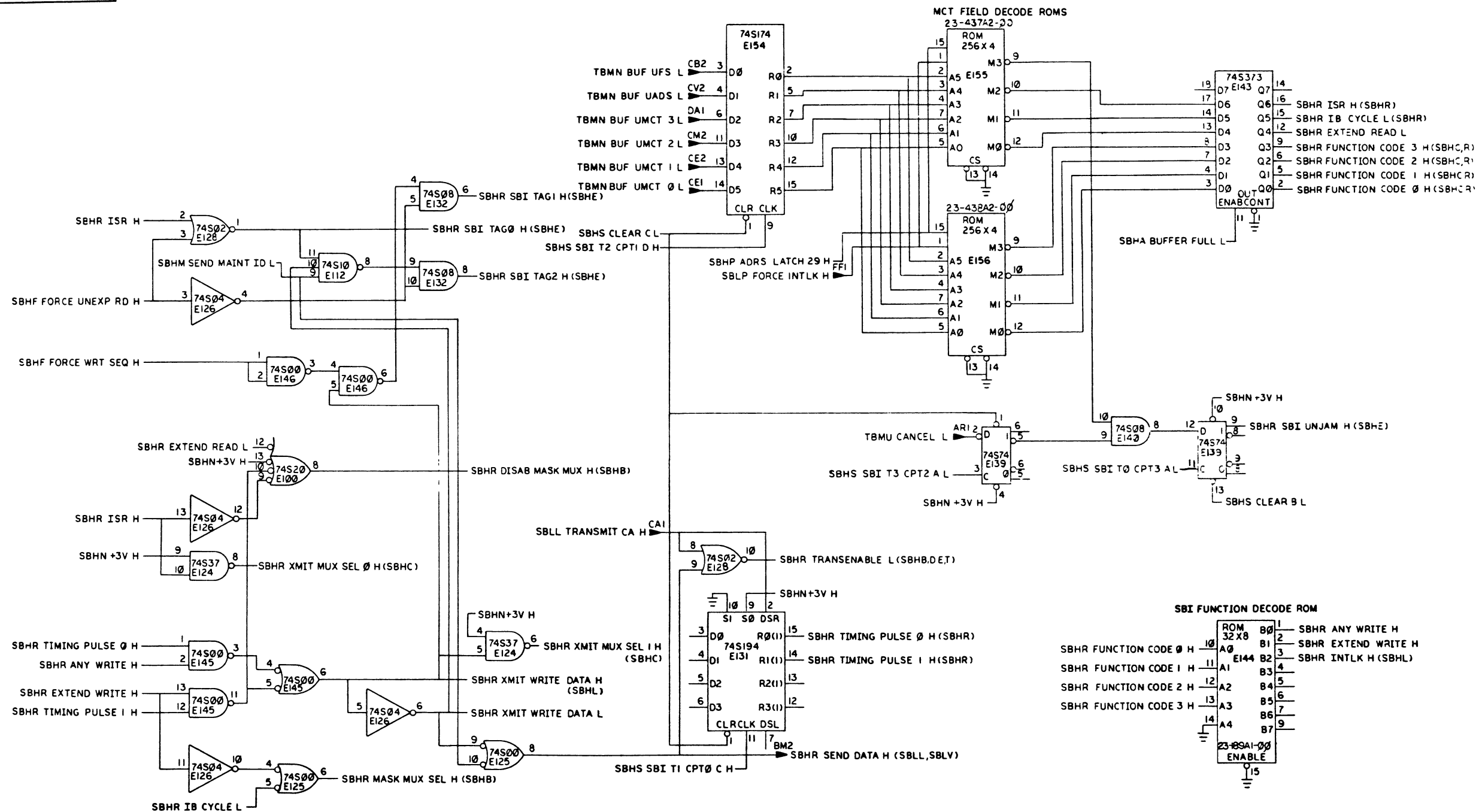
4

3

2

1

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



(SBI TIMING AND MCT FIELD DECODE)

(SLOT 3)

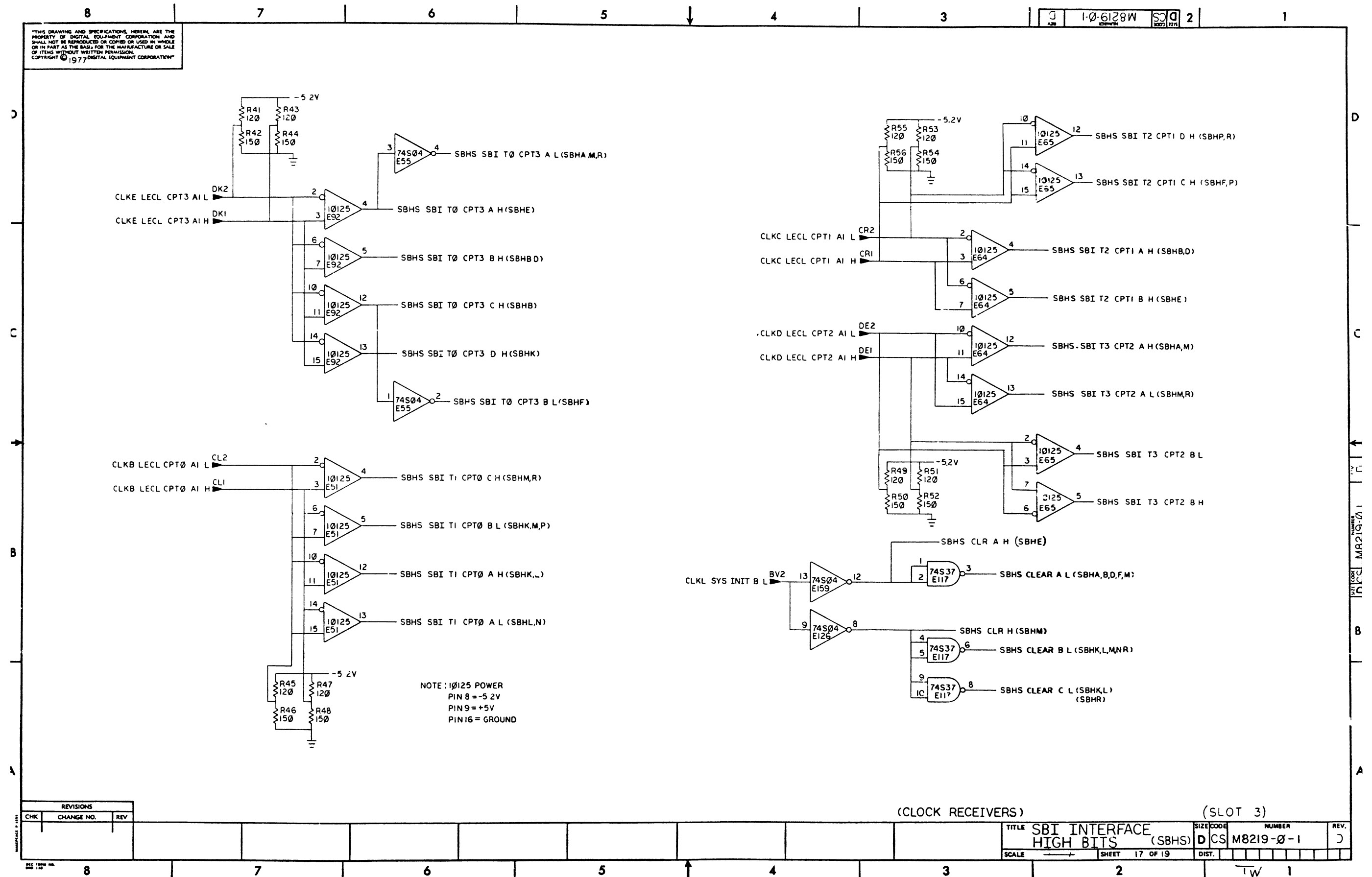
TITLE SBT INTERFACE
HTGH BTTS

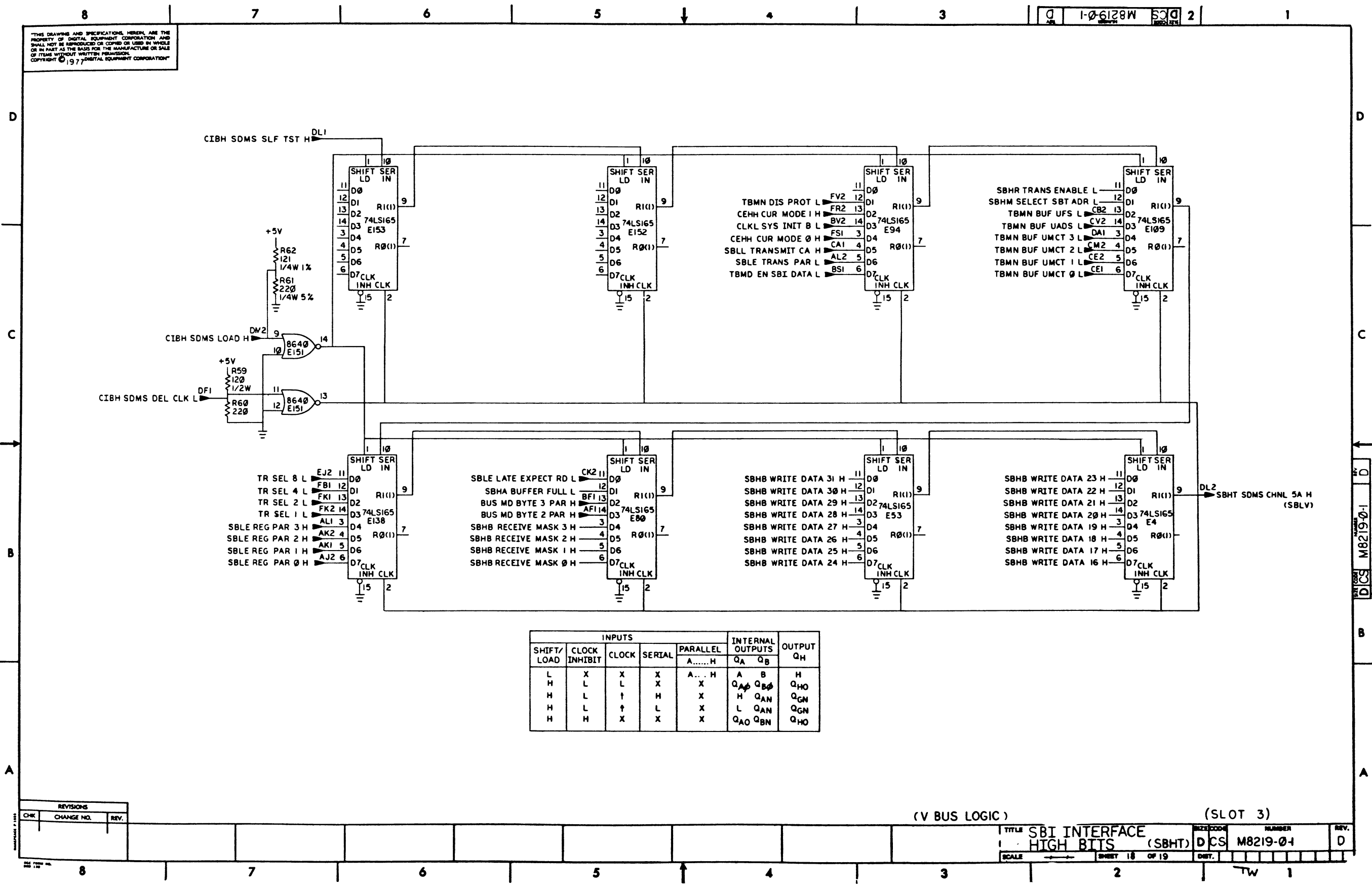
SIZE CODE D CS
NUMBER M8219-0-1

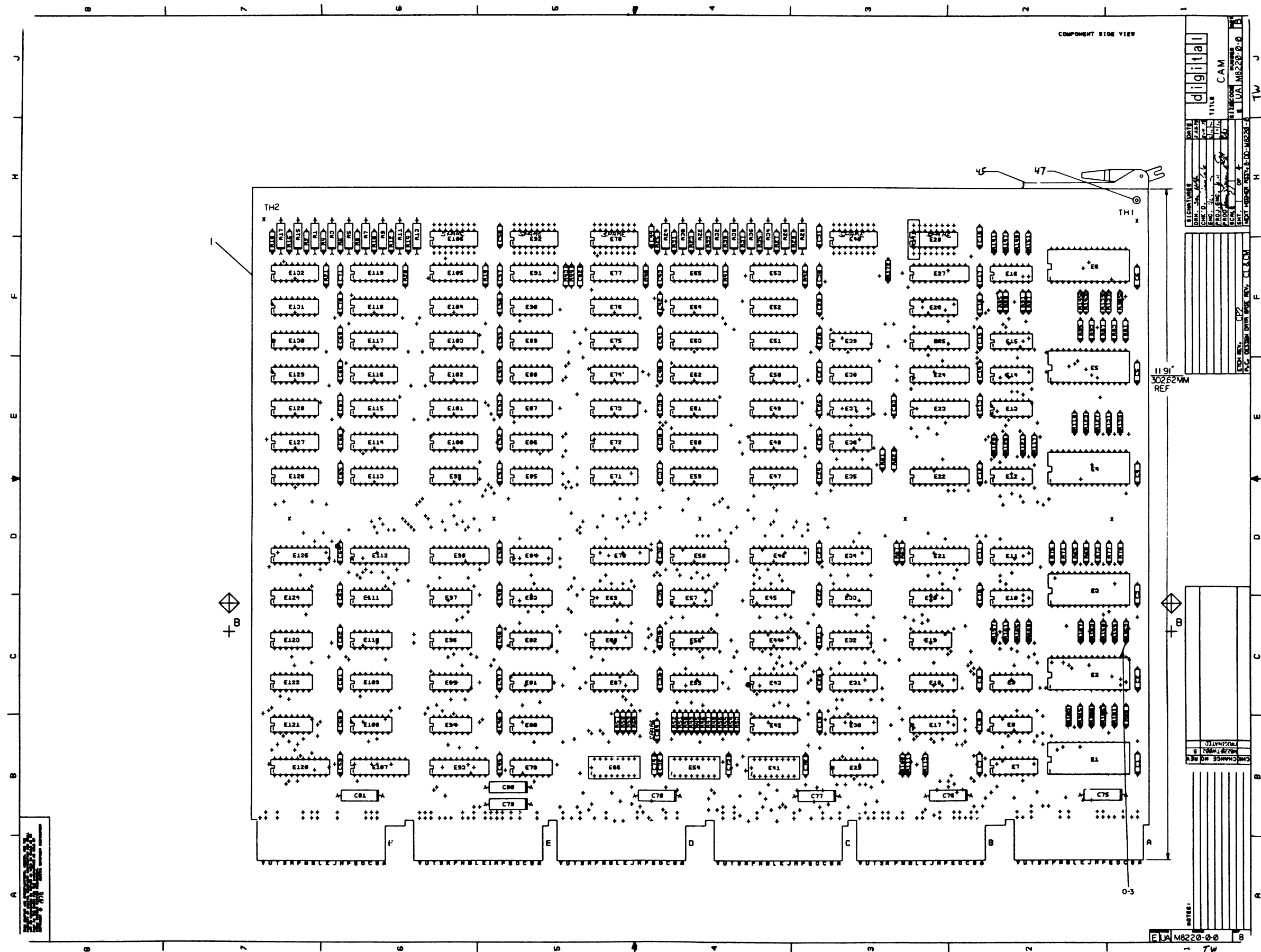
REV. D

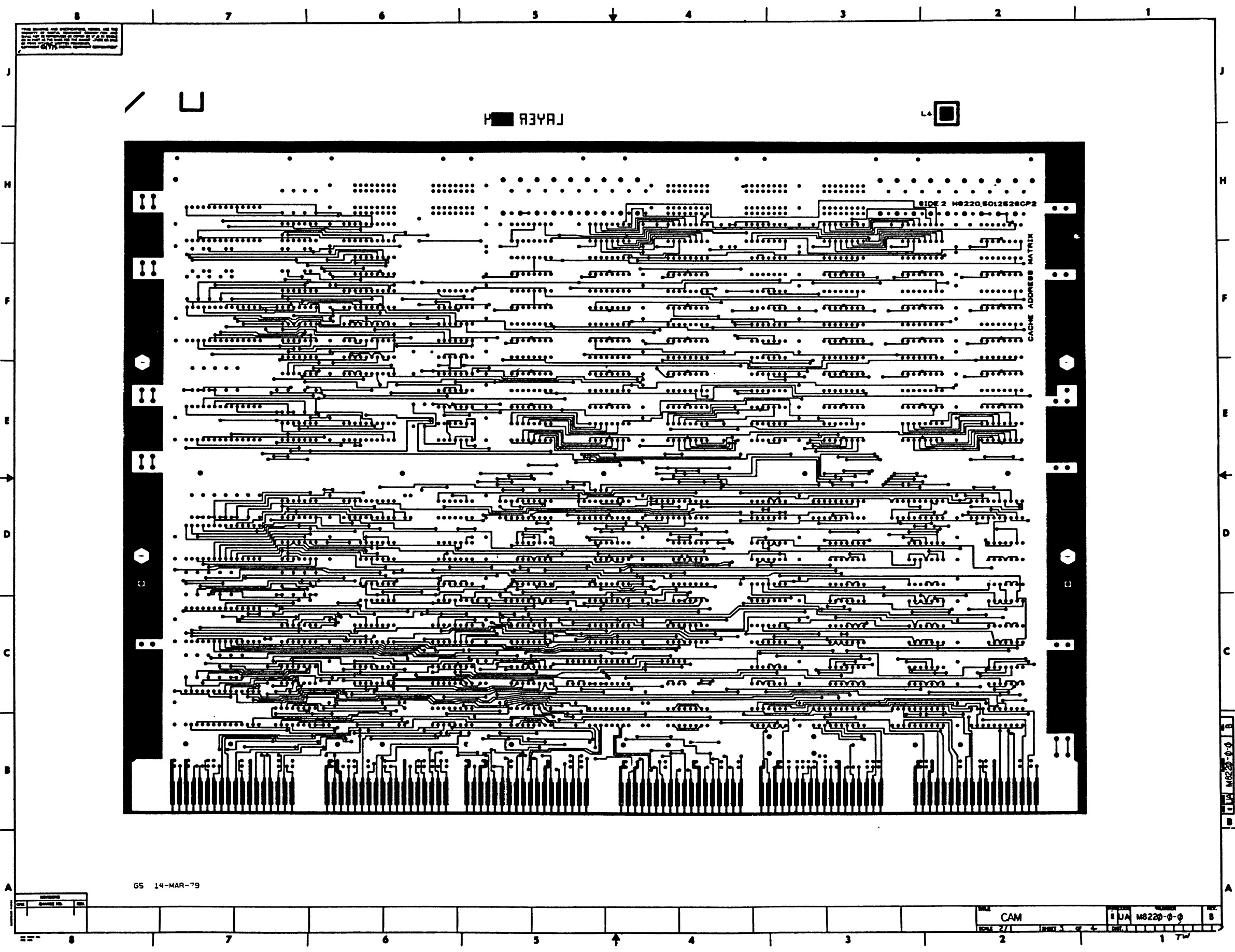
SCALE SHEET 16 OF 19 DIST.

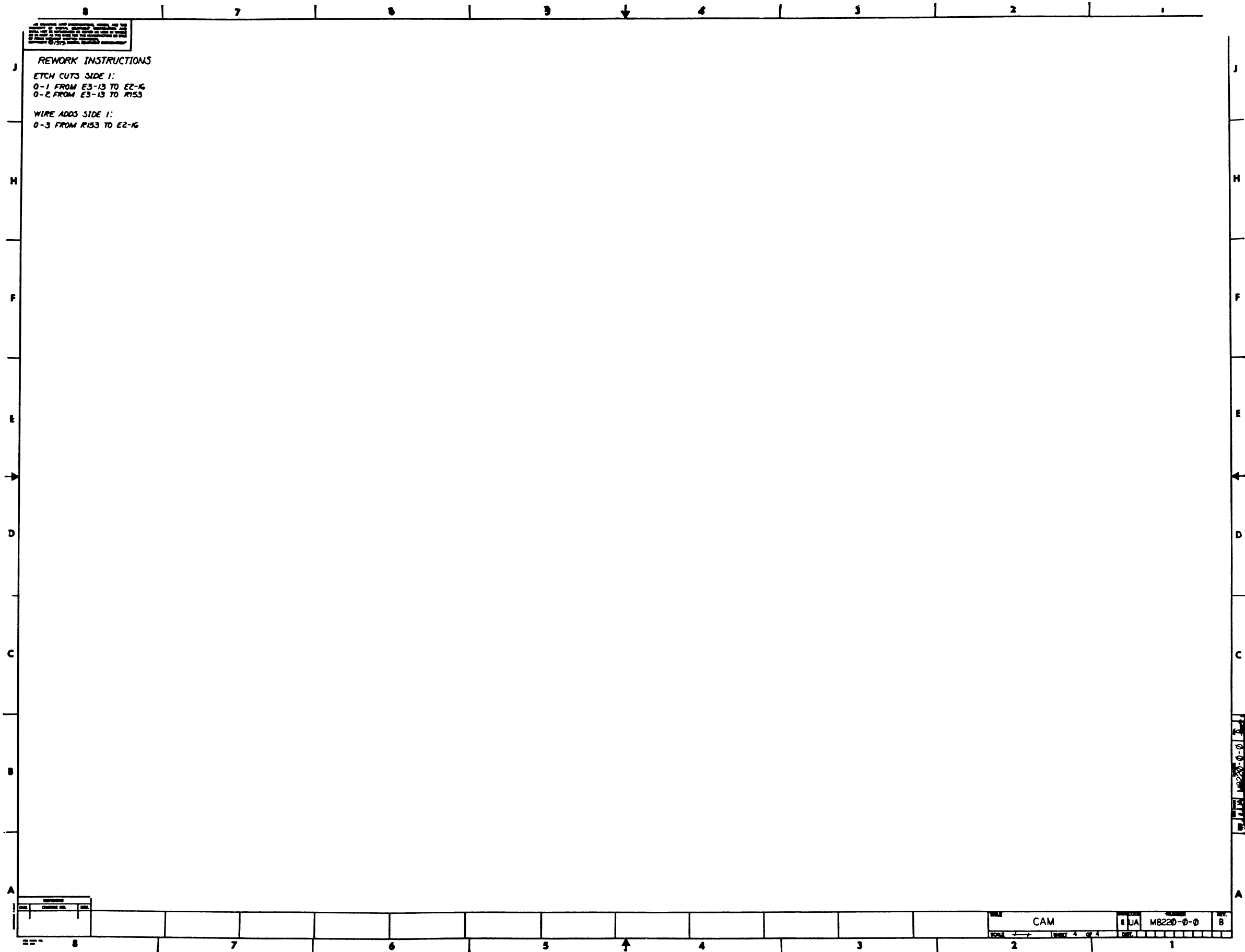
TW 1











DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:					
MADE BY L. REYNOLDS DATE 7 OCT 76		CHECKED G. GIDDINGS DATE 18 NOV 76		SECTION		M8220-0-0												104817 ETCH REV B CS REV A			
ENG 9 DATE 9 Aug 76		PROD Mike Tirello DATE 6-21-77		ISSUED SECTION														REF DESIGNATION			
DRAWING NO.		PART NO.		DESCRIPTION																	
1	E-MD-5012526-0-0	5012526	ETCH BOARD																		
2		1012784-00	CAPACITOR, .047UF, 50V		76													C1-C74, C82, C83			
3		1012084-01	CAPACITOR, 8UF, 25V		7													C75-C81			
4																					
5																					
6		1300228-00	RESISTOR 100, 1/2W, 5%		18													R1, R3, R5, R7, R9, R11, R13, R15, R17, R22, R24, R26, R28, R30, R32, R34, R36, R38			
7																					
8		1311522-00	RESISTOR 200, 1/4W, 5%		18													R2, R4, R6, R8, R10, R12, R14, R16, R18, R23, R25, R27, R29, R31, R33, R35, R37, R39			
9																					
10		1300447-00	RESISTOR, 4.7K, 1/4W, 5%		6													R19, R20, R21, R40, R41, R42			
11		1300295-00	RESISTOR 330, 1/4W, 5%		2													R43, R61			
12																					
13		1301424-00	RESISTOR 680, 1/4W, 5%		2													R44, R62			
14																					
15		1300247-00	RESISTOR 120, 1/4W, 5%		8													R45, R47, R49, R51, R53, R55, R57, R59			
16		1300250-00	RESISTOR 150, 1/4W, 5%		8													R46, R48, R50, R52, R54, R56, R58, R60			
17		13-11845-00	RESISTOR, 487 OHM, 1/8W 1%		54													R63, R65, R67, R69, R71, R73, R75, R77, R79, R81, R83, R85, R87, R89, R91, R93, R95, R97, R99, R101, R103, R105, R107, R109, R111, R113, R115, R117, R119, R121, R123, R125, R127, R129, R131, R133, R135, R137, R139, R141, R143, R145, R147, R149, R151, R153, R155, R157, R159, R161, R163, R165, R167, R169			
E.C.O. NO.																					
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION				TITLE CACHE ADDRESS MATRIX				ASSY NO. E-UA-M8220-0-0				SIZE B	CODE PL	NUMBER M8220-0-0		REV. B					
								SHEET 1 OF 3				INSERTION PARTS LIST DATA BASE REV									

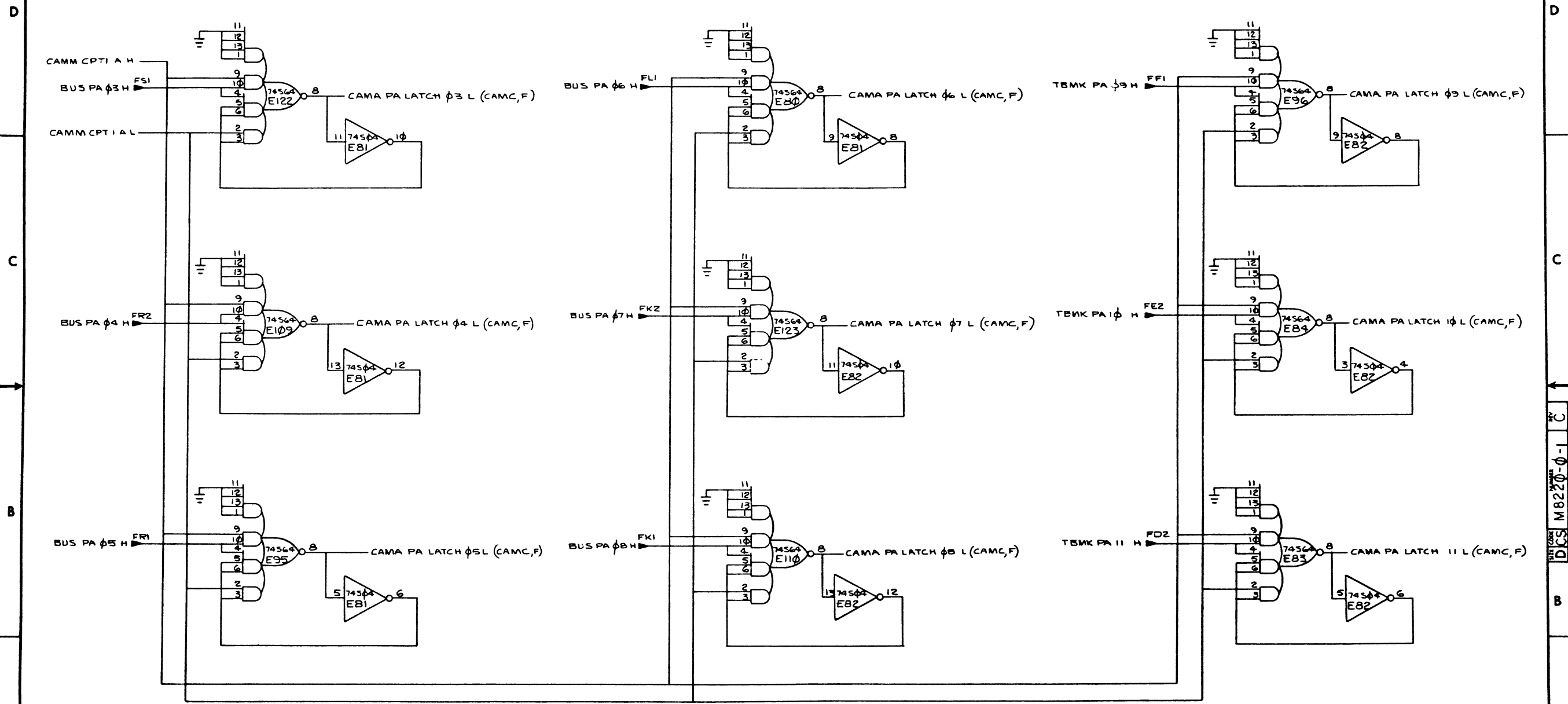
TW

DIGITAL EQUIPMENT CORPORATION PARTS LIST						QUANTITY / VARIATION										NOTES:			
MADE BY L. REYNOLDS DATE 7 OCT 76		CHECKED G. GIDDINGS DATE 18 NOV 76		SECTION		M8220-0-0												104817 ETCH REV B CS REV A	
ENG g. Ruggel 7/6/77 DATE		PROD Mike Tivella DATE 8-21-77		ISSUED SECTION														REF DESIGNATION	
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION																
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26																			
27																			
28																			
29		19-10544-ØØ	DEC I.C., 74S74		1												E35		
30		19-10534-ØØ	DEC I.C., 74S04		6												E13,E20,E33,E38,E81,E82		
31		19-12746-ØØ	DEC I.C., 74S37		8												E34,E39,F85-E90		
32		19-10542-ØØ	DEC I.C., 74S64		13												E19,E32,E36,E37,E80,E83,E84,E95,E96,E109, E110,E123,E122		
33		19-13839-ØØ	DEC I.C., 74LS165		8												E17,E31,E30,E43,E44,E55.E56,E67		
34		19-12860-ØØ	DEC I.C., 74LS259		2												E18,E91		
35		19-11573-ØØ	DEC I.C., 74S280		18												E8-E12,E79,E14-E16,E45,E57,E69,E94,E97. E108,E111,E121,E124		
36		19-13670-ØØ	DEC I.C., 74S373		3												E93,E107,E120		
E.C.O. NO.																			
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"					TITLE CACHE ADDRESS MATRIX					ASSY NO. E-UA-M8220-0-0					SIZE B	CODE PL	NUMBER M8220-0-0		REV. B
										SHEET 2 OF 3					INSERTION PARTS LIST DATA BASE REV				

TW

"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

CS M8220-0-1 2



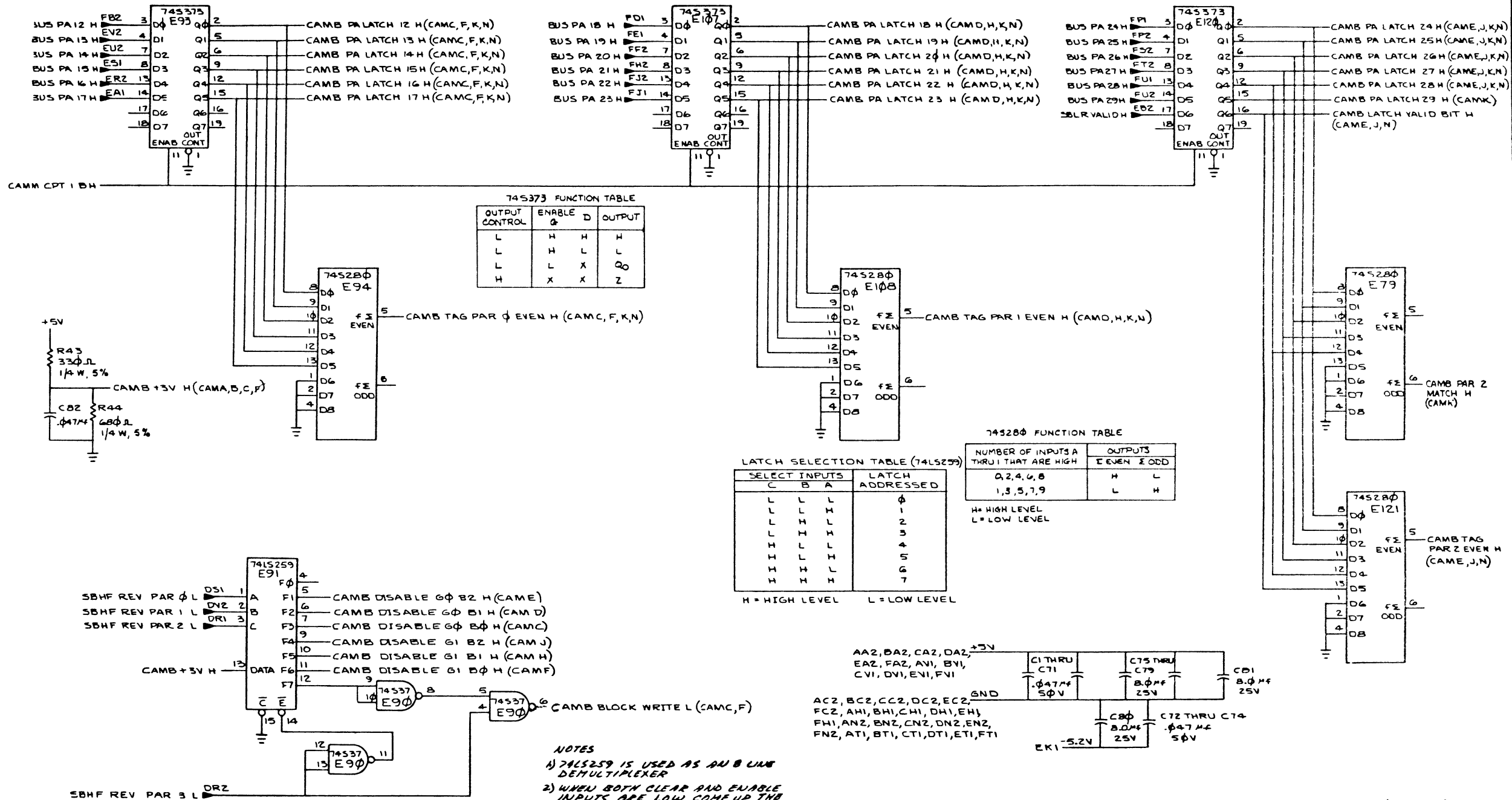
REVISIONS		
CHK	CHANGE NO.	REV.

(PA ADDRESS LATCH LOGIC)

(SLOT 4)

TITLE		SIZE		CODE		NUMBER		REV.	
CACHE ADDRESS MATRIX (CAMA)		D		CS		M8220-0-1		C	
SCALE		SHEET		2 OF 19		DIST.			
H									

THE DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



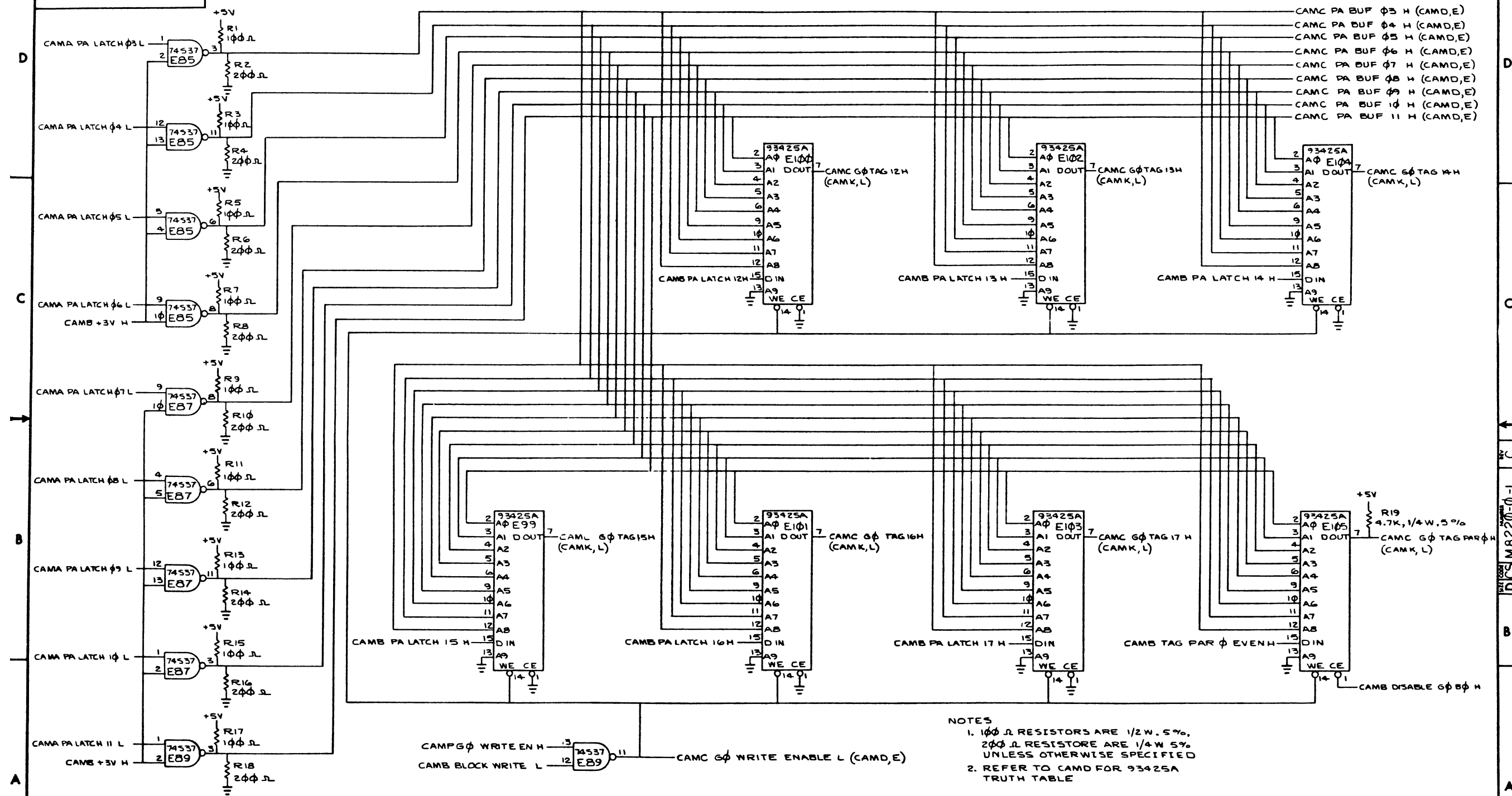
(PA ADDRESS LATCH REGISTER & FORCE PARITY ERROR DECODE)

TITLE: CACHE ADDRESS MATRIX (CAMP) SIZE CODE: DCS NUMBER: M8220-0-1 REV: C

SCALE: 1:1 SHEET: 3 OF 13

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-0229W 50 2



REVISIONS		
CHK	CHANGE NO.	REV.

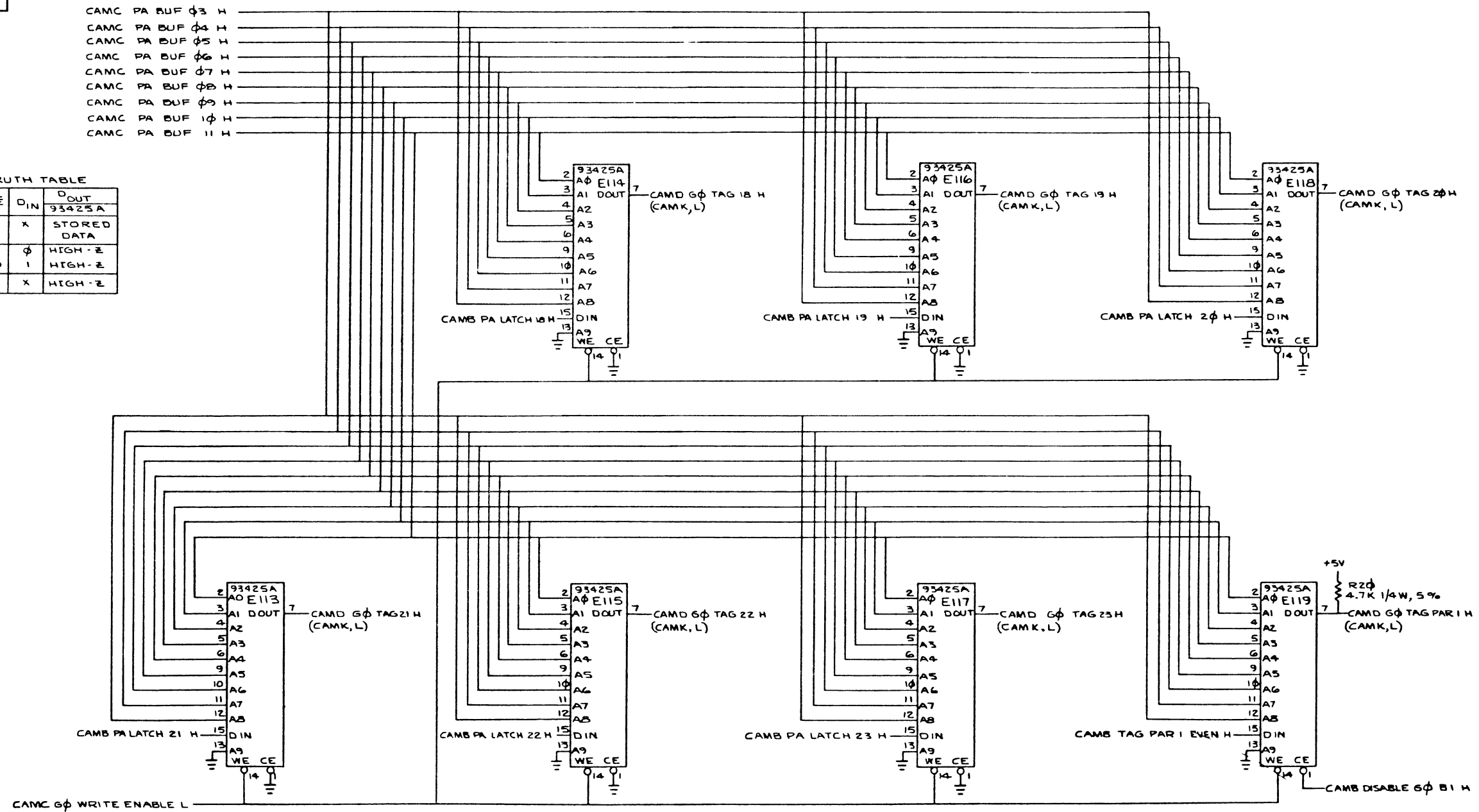
(SLOT 4)
(CACHE ADDRESS TAG GROUP φ BYTE φ)

TITLE	CACHE ADDRESS MATRIX (CAMC)	SIZE CODE	D CS	NUMBER	M8220-φ-1	REV.	C
SCALE	1:1	SHEET	4 OF 19	DATE			

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

93425A TRUTH TABLE				
MODE	\overline{CE}	\overline{WE}	D_{IN}	D_{OUT} 93425A
READ	ϕ	1	X	STORED DATA
WRITE "0"	ϕ	ϕ	ϕ	HIGH-Z
WRITE "1"	ϕ	ϕ	1	HIGH-Z
DISABLED	1	X	X	HIGH-Z

X = DON'T CARE



REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 4)
(CACHE ADDRESS TAG GROUP ϕ BYTE 1)

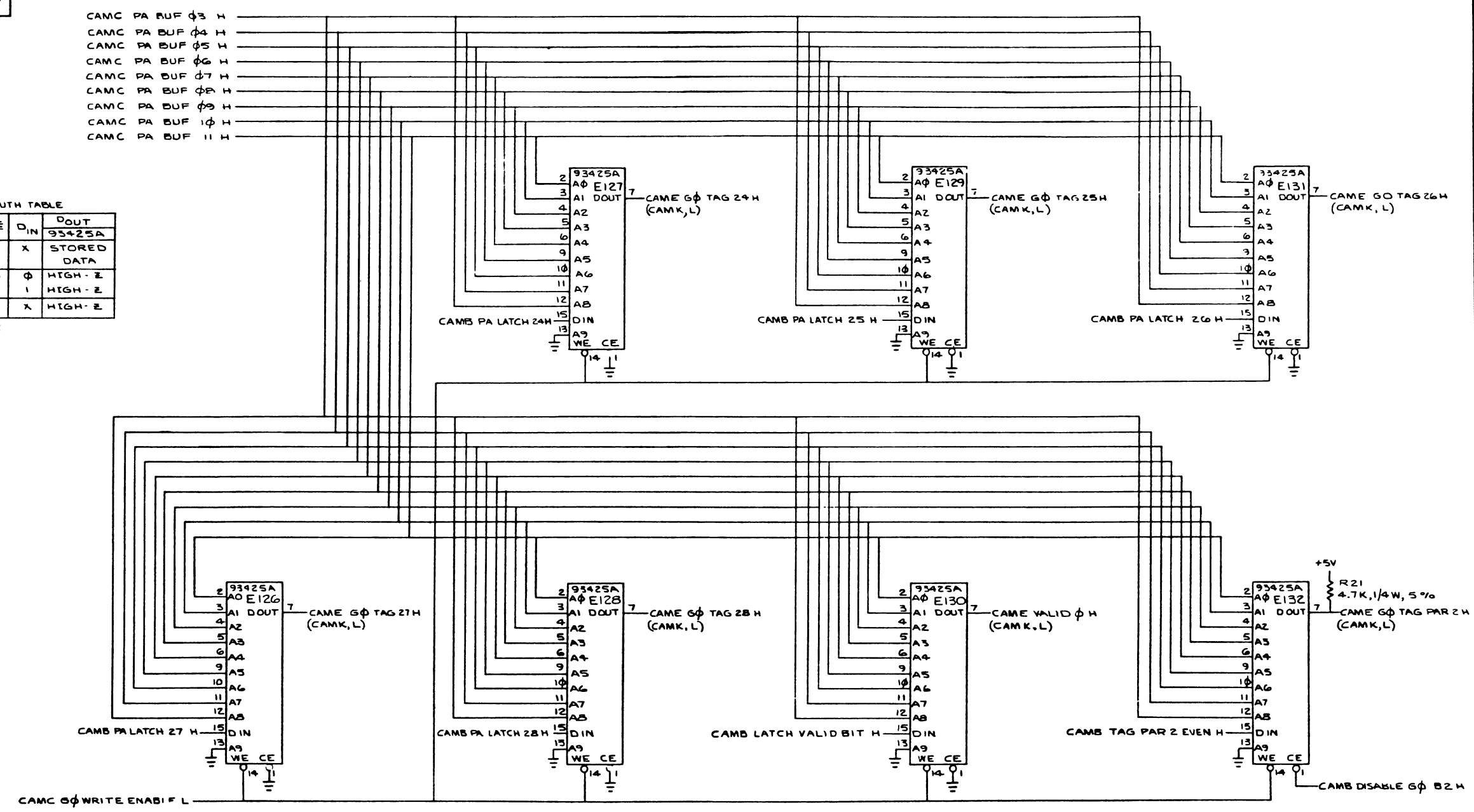
TITLE	SIZE	DOOR	NUMBER	REV.
CACHE ADDRESS MATRIX (CAMD)	D	CS	M8220-0-1	C
SCALE	1:1	SHEET	5 OF 15	DIST.

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

93425A TRUTH TABLE

MODE	CE	WE	DIN	DOUT
READ	ϕ	1	X	STORED DATA
WRITE "0"	ϕ	ϕ	ϕ	HIGH-Z
WRITE "1"	ϕ	ϕ	1	HIGH-Z
DISABLED	1	-	X	HIGH-Z

X = DON'T CARE

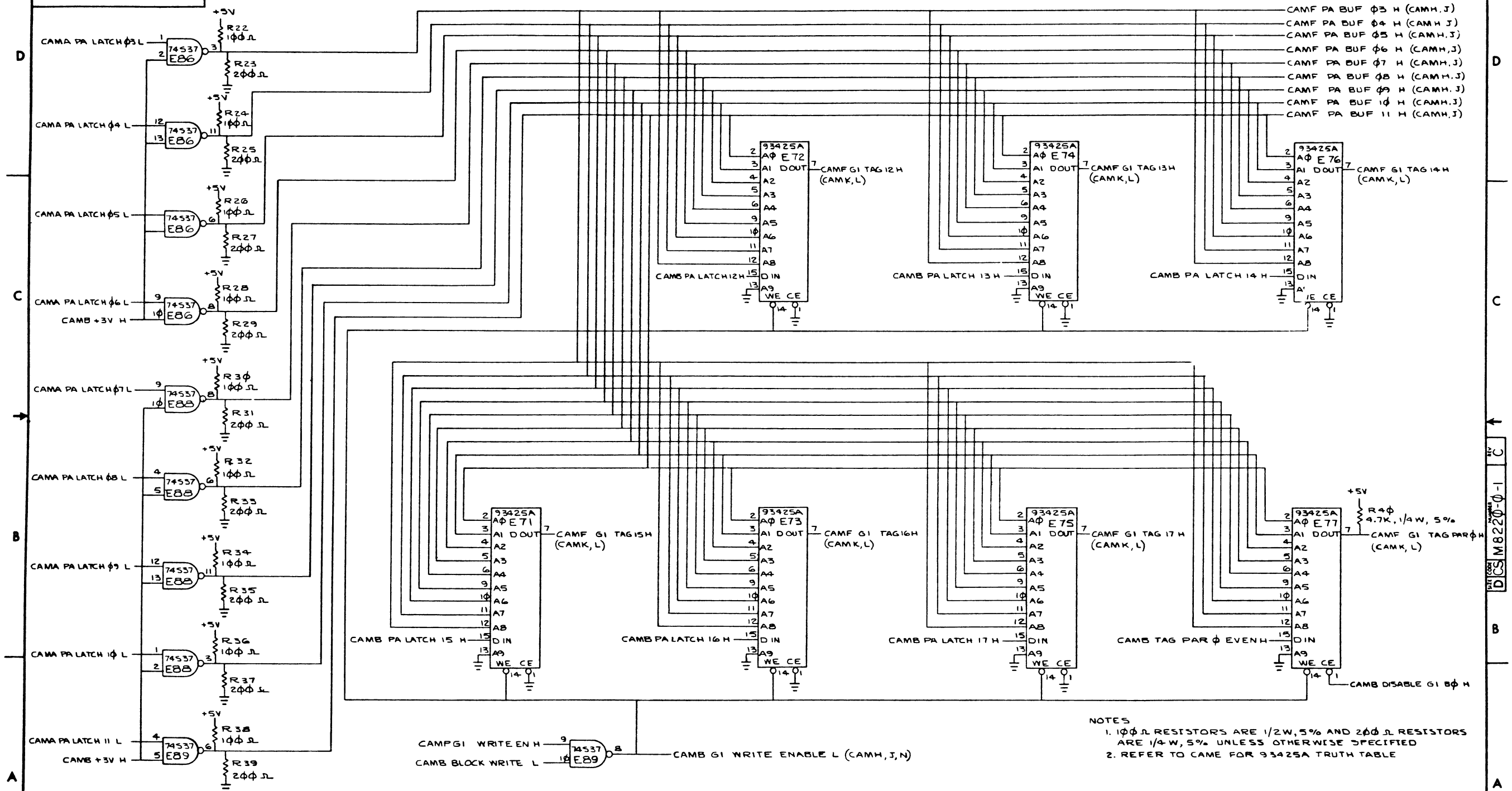


REV.	CHANGE NO.	REV.
OK		

(SLOT 4)
(CACHE ADDRESS TAG GROUP ϕ BYTE 2)
TITLE: CACHE ADDRESS MATRIX (CAME)
SIZE: CODE D CS M8220-0-1
NUMBER: 6 OF 19
REV: C

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

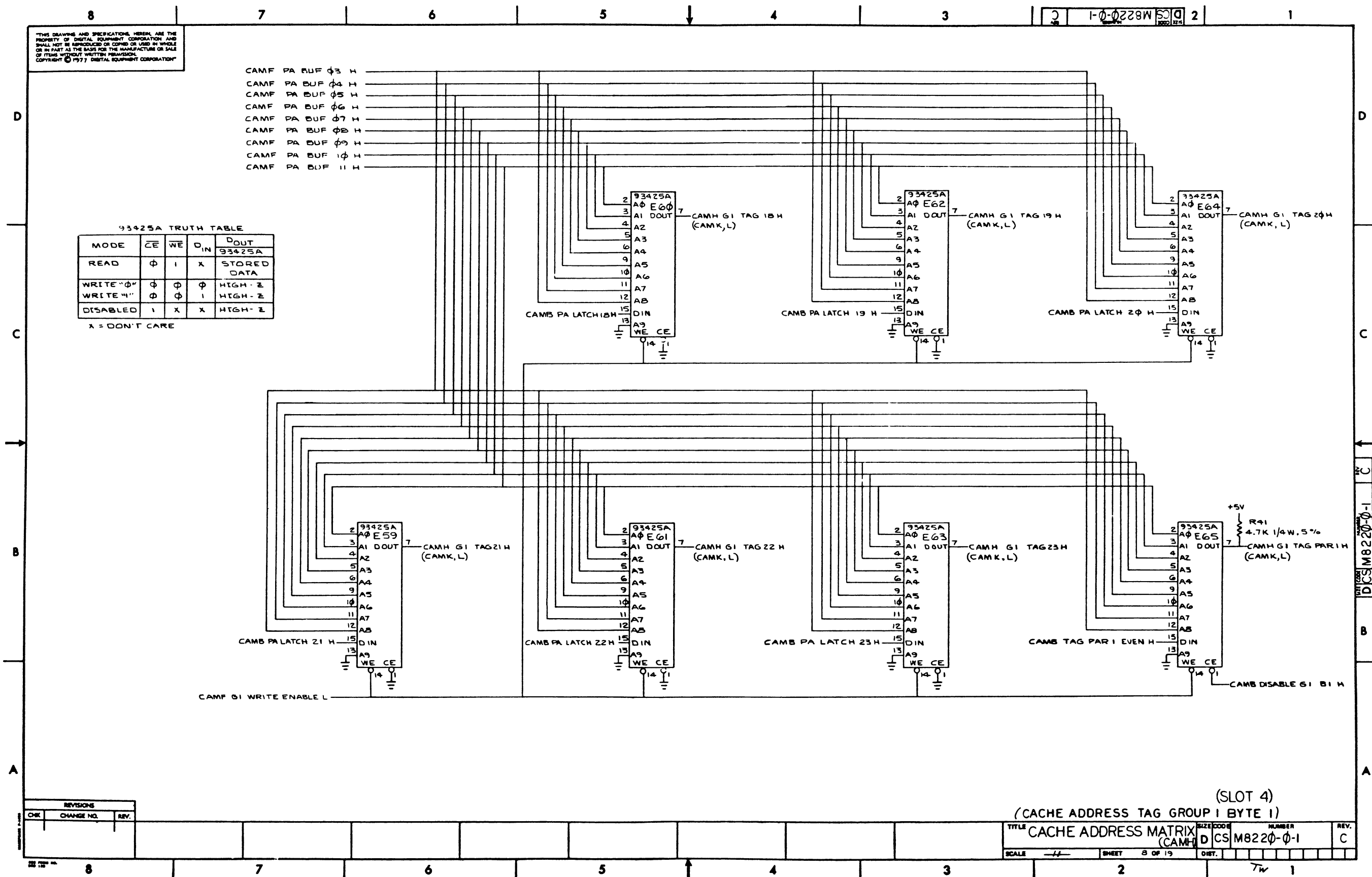
1-0-0228M 2



REVISIONS		
CHK	CHANGE NO.	REV

(SLOT 4)
(CACHE ADDRESS TAG GROUP 1 BYTE 0)

TITLE	CACHE ADDRESS MATRIX (CAMF)	SIZE CODE	D CS M8220-0-1	NUMBER		REV.	C
SCALE	1:1	SHEET	7 OF 19	DIST.			

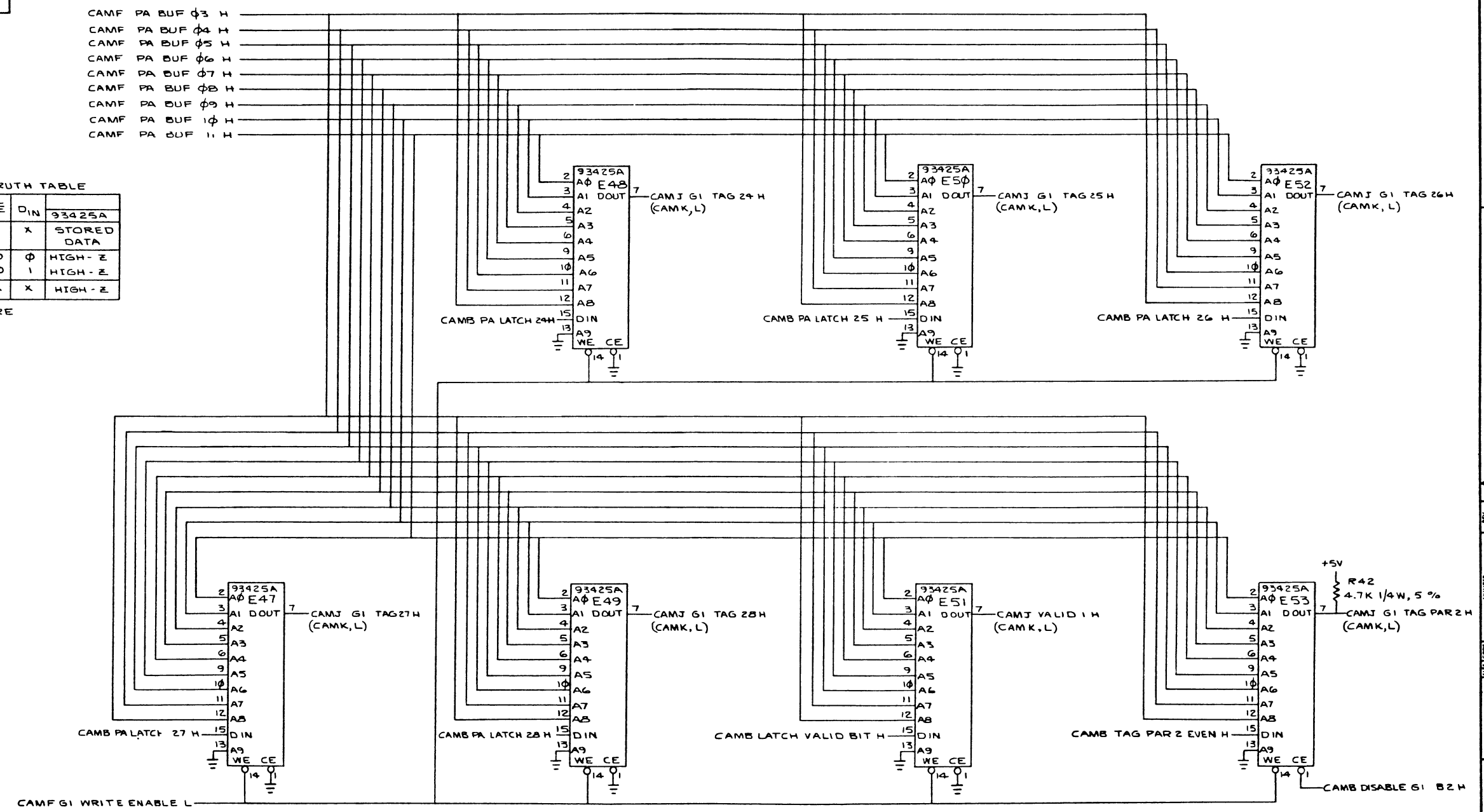


"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

93425A TRUTH TABLE

MODE	\overline{CE}	\overline{WE}	DIN	93425A
READ	ϕ	1	X	STORED DATA
WRITE '0'	ϕ	ϕ	ϕ	HIGH-Z
WRITE '1'	ϕ	ϕ	1	HIGH-Z
DISABLED	1	X	X	HIGH-Z

X = DON'T CARE



REV C
DCS M8220-0-1

B

A

REVISIONS

CHK	CHANGE NO.	REV.

"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

DC1φZ FUNCTION TABLE

INPUTS		OUTPUT
A	B	Y
L	L	H
L	H	L
H	L	L
H	H	H

H = HIGH LEVEL
L = LOW LEVEL

NOTE: THERE IS NO INTERNAL CONNECTION ON PIN 11 OF DC1φZ

CBI → CAMK Gφ MATCH H
(CAMN,P)(CDMT)(SBLN,R,T)

CDZ → CAMK G1 MATCH H
(CAMN P)(SBLN,R,T)

DCS M8220-0-1

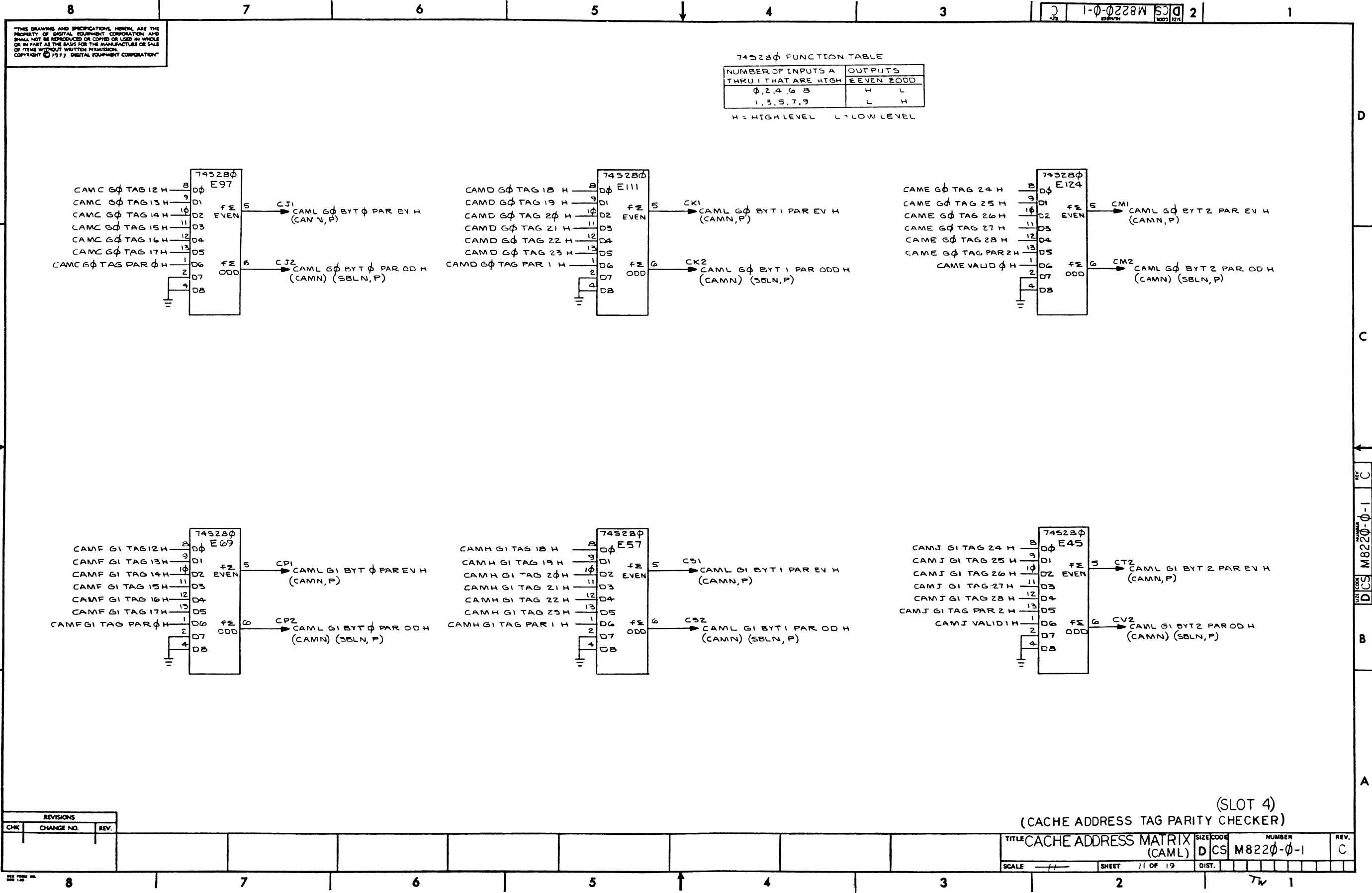
B

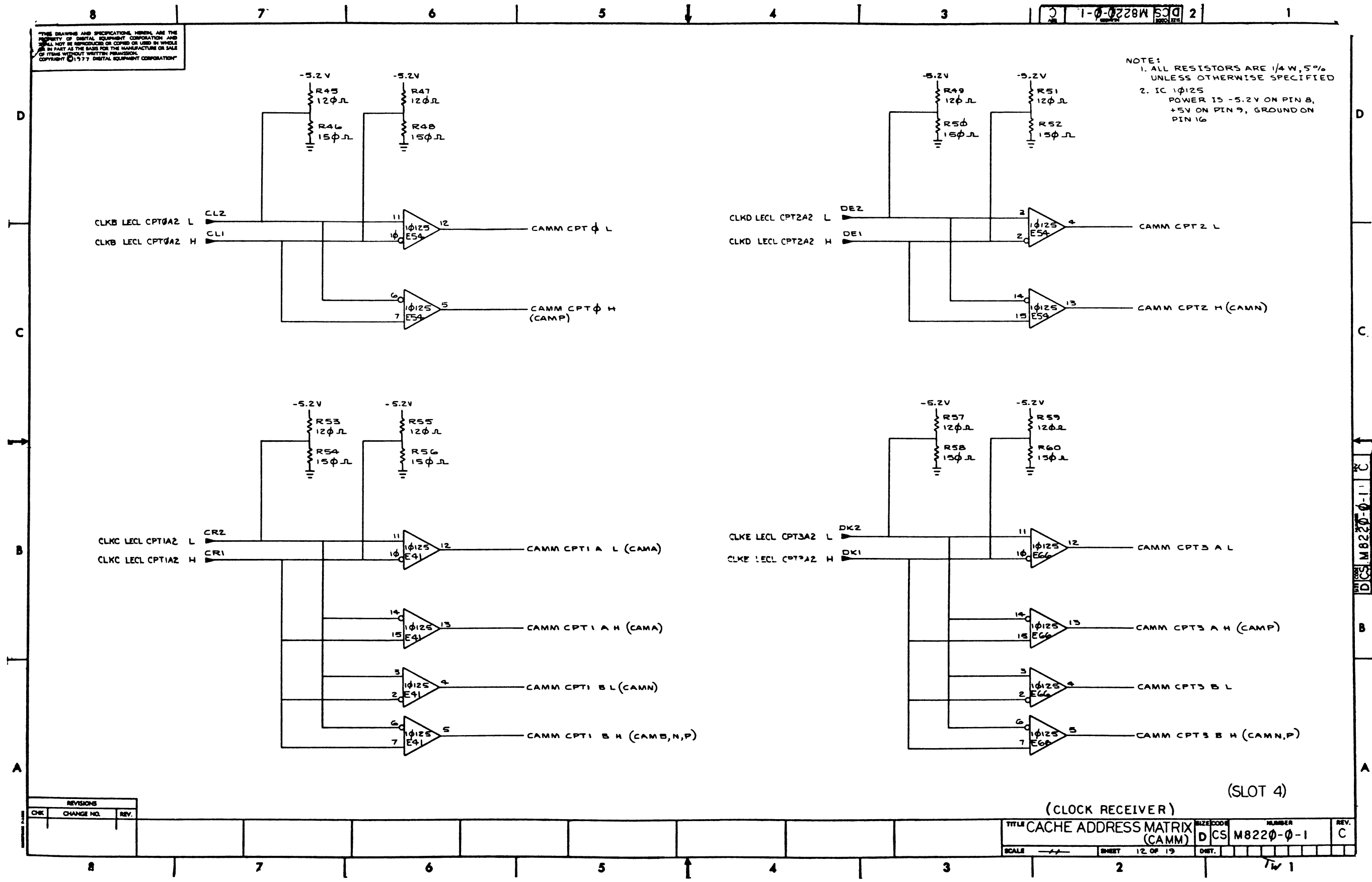
A

REVISIONS		
CHK	CHANGE NO.	REV

(SLOT 4)
(CACHE ADDRESS TAG EQUAL CHECKER)

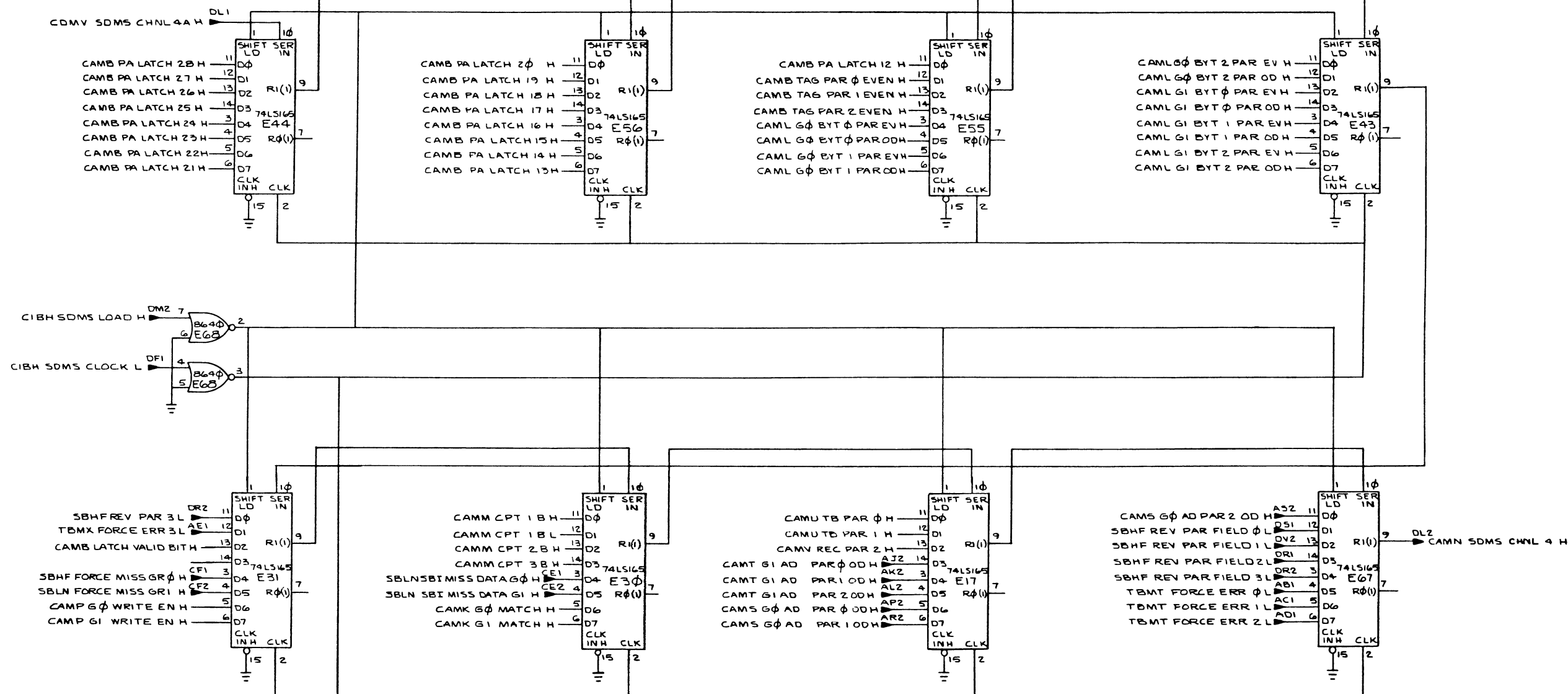
TITLE	SIZE	CODE	NUMBER	REV.
CACHE ADDRESS MATRIX (CAMK)	DCS	M8220-0-1	C	
SCALE	1/1	SHEET 10 OF 19	DIST.	





THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-0228W-1



74LS165 FUNCTIONS

1. 8 BIT SHIFT REGISTER
2. THE OUTPUT COMES FROM FLIP FLOP NUMBER 7
3. IF SHIFT LOAD IS LOW, DATA IS LOADED FROM D INPUTS REGARDLESS OF CLOCK
4. OTHERWISE DATA SHIFTS FROM 0 TOWARD 7 ON CLOCK RISING EDGE

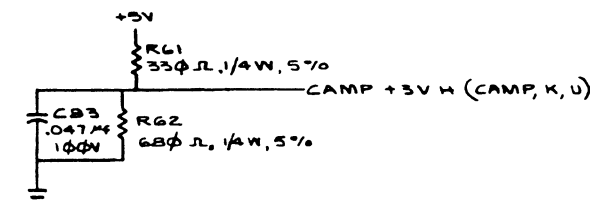
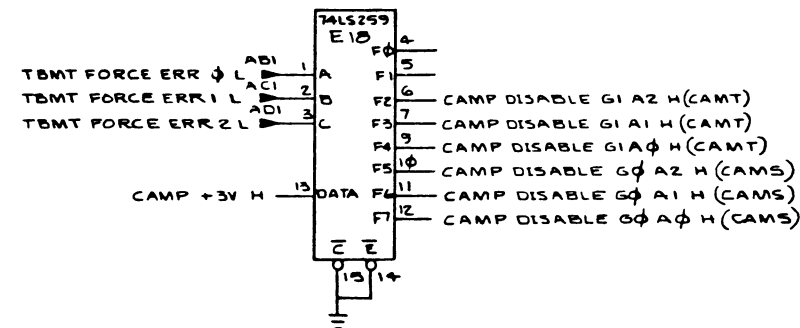
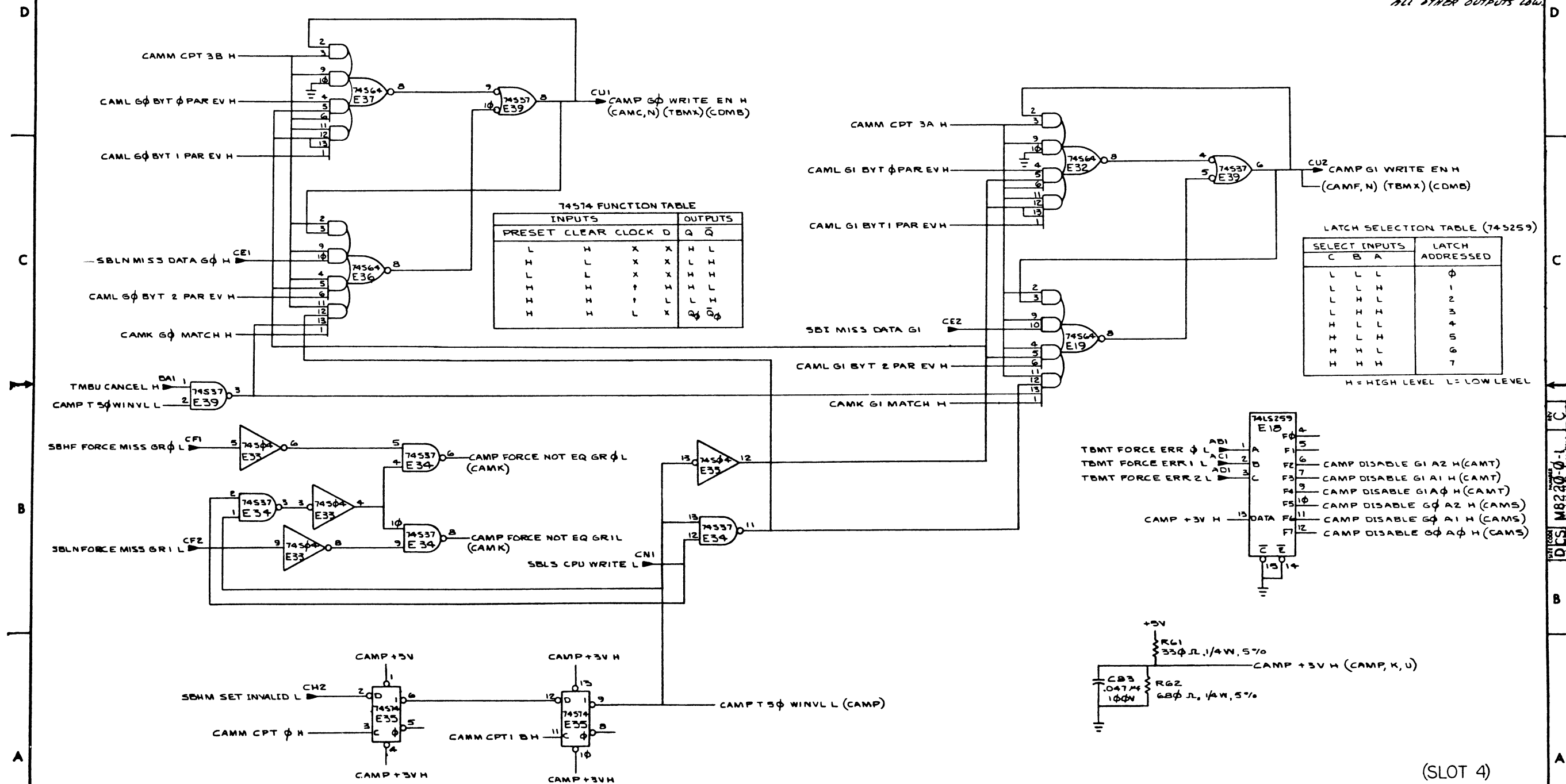
(SLOT 4)

REVISIONS		
CHK	CHANGE NO.	REV

TITLE			SIZE	CODE	NUMBER	REV.
CACHE ADDRESS MATRIX (CAMN)			D	CS	M8220-0-1	C
SCALE	SHEET	13 OF 19	DSY.			

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

NOTES:
1) 74LS259 IS USED AS 8 LINE DEMULTIPLEXER
2) WHEN BOTH CLEAR AND ENABLE INPUTS ARE LOW THE ADDRESSED OUTPUT WILL FOLLOW THE LEVEL OF "I" INPUT WITH ALL OTHER OUTPUTS LOW.

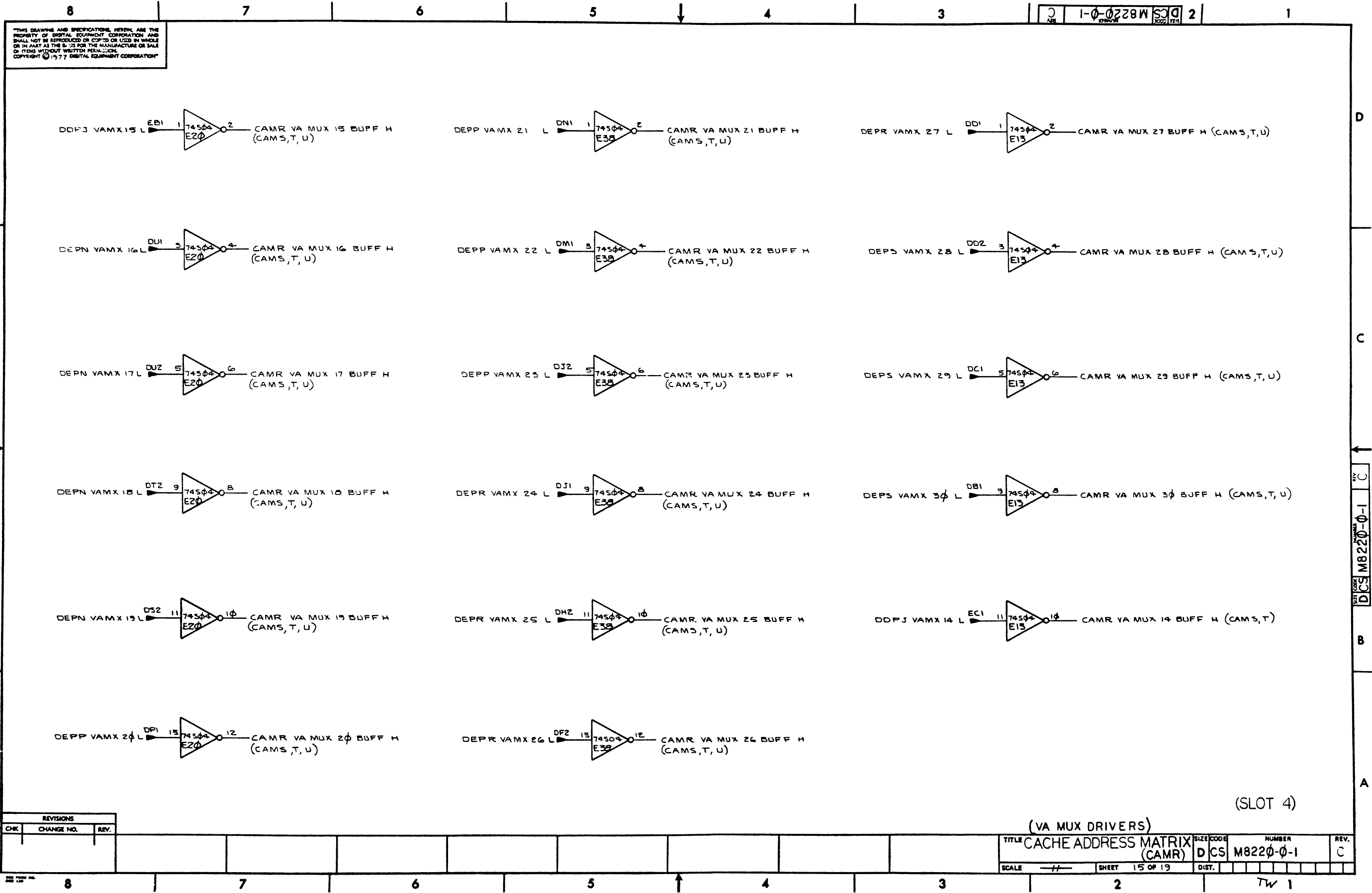


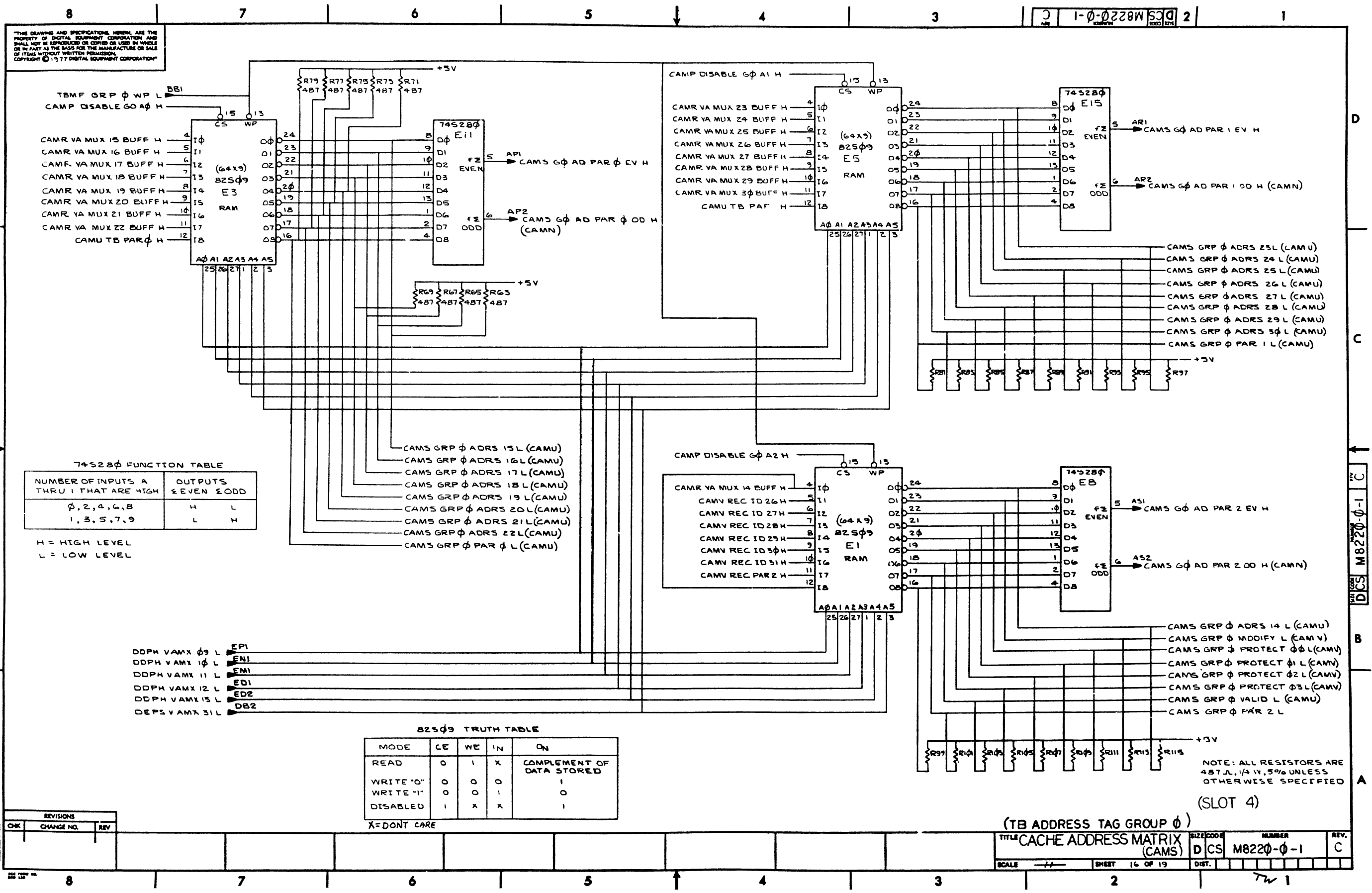
(SLOT 4)

(WRITE PULSE LOGIC & TB PARITY FORCE ERROR DECODE)

REV	CHANGE NO.	REV

TITLE	CACHE ADDRESS MATRIX (CAMC)	SIZE CODE	D C S	NUMBER	M8220-0-1	REV.	C
SCALE	1:1	SHEET	14 OF 19	DIST.			





"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

74528 FUNCTION TABLE

NUMBER OF INPUTS A THRU 1 THAT ARE HIGH	OUTPUTS Σ EVEN Σ ODD	
0, 2, 4, 6, 8	H	L
1, 3, 5, 7, 9	L	H

H = HIGH LEVEL
L = LOW LEVEL

82509 TRUTH TABLE

MODE	CE	WE	IN	Qn
READ	0	1	X	COMPLEMENT OF DATA STORED
WRITE "0"	0	0	0	1
WRITE "1"	0	0	1	0
DISABLED	1	X	X	1

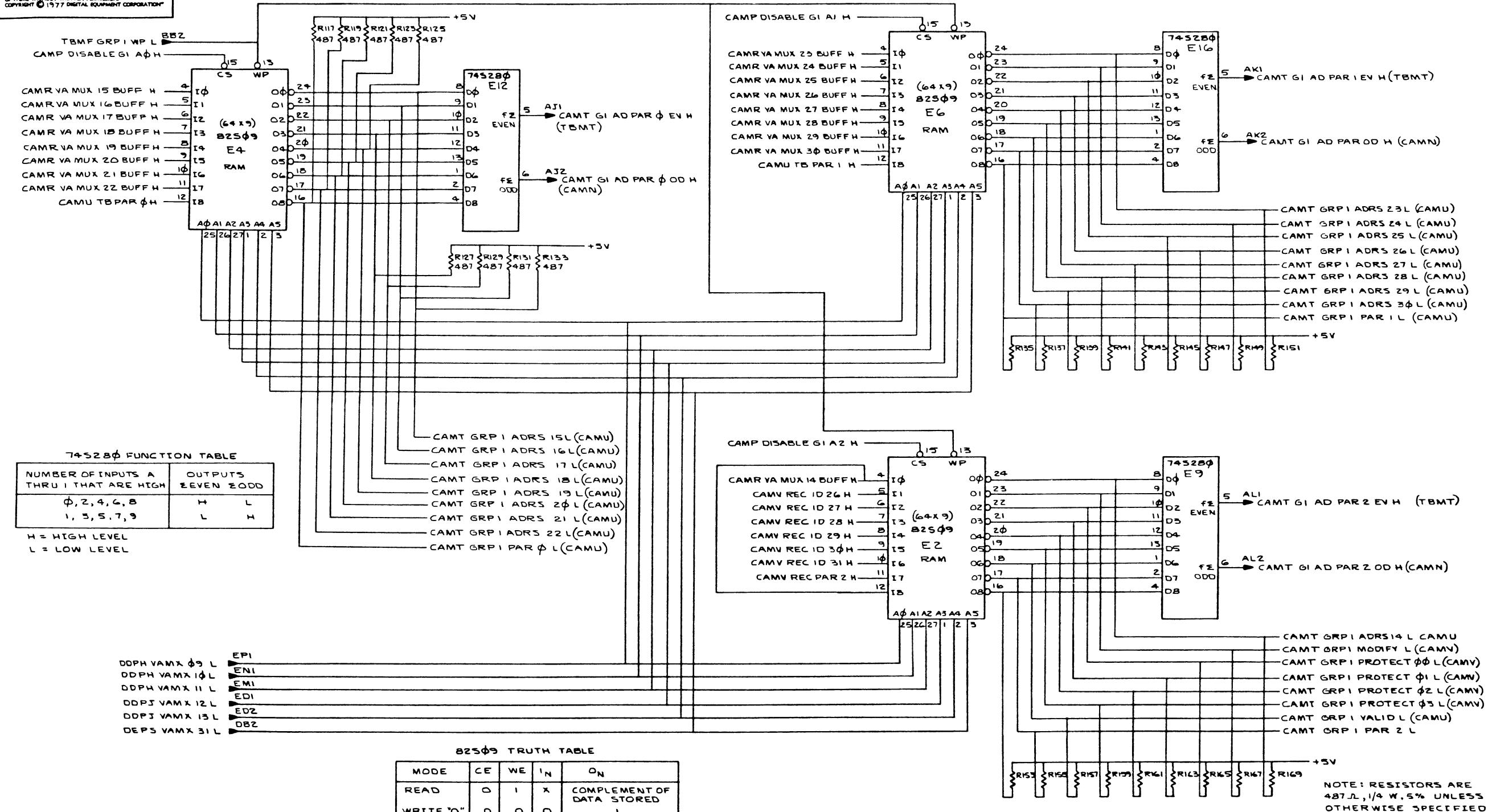
X = DONT CARE

(TB ADDRESS TAG GROUP 0)

TITLE		D CS M8220-0-1		REV.
SCALE		SHEET 16 OF 19		C

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-0228W 500 2



NOTE: RESISTORS ARE 487Ω, 1/4 W, 5% UNLESS OTHERWISE SPECIFIED

(SLOT 4)

(TB ADDRESS TAG GROUP 1)

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-0228W SC 2

CAMS GRP ϕ ADRS 15 L
CAMS GRP ϕ ADRS 16 L
CAMS GRP ϕ ADRS 17 L
CAMS GRP ϕ ADRS 18 L
CAMS GRP ϕ ADRS 19 L
CAMS GRP ϕ ADRS 20 L
CAMS GRP ϕ ADRS 21 L
CAMS GRP ϕ PAR ϕ L

DDPJ VAMUX 15 L
DEPN VAMUX 16 L
DEPN VAMUX 17 L
DEPN VAMUX 18 L
DEPN VAMUX 19 L
DEPN VAMUX 20 L
DEPN VAMUX 21 L

CAMS GRP ϕ ADRS 22 L
CAMS GRP ϕ ADRS 23 L
CAMS GRP ϕ ADRS 24 L
CAMS GRP ϕ ADRS 25 L
CAMS GRP ϕ ADRS 26 L
CAMS GRP ϕ ADRS 27 L
CAMS GRP ϕ ADRS 28 L
CAMS GRP ϕ PAR 1 L

DEPP VAMUX 22 L
DEPP VAMUX 23 L
DEPP VAMUX 24 L
DEPP VAMUX 25 L
DEPP VAMUX 26 L
DEPP VAMUX 27 L
DEPP VAMUX 28 L

CAMS GRP ϕ ADRS 29 L
CAMS GRP ϕ ADRS 30 L
CAMS GRP ϕ ADRS 31 L

DEPS VAMUX 29 L
DEPS VAMUX 30 L
DEPS VAMUX 31 L
TBM ER REG ϕ 016 H
CAMS GRP ϕ VALID L

CAMT GRP 1 ADRS 15 L
CAMT GRP 1 ADRS 16 L
CAMT GRP 1 ADRS 17 L
CAMT GRP 1 ADRS 18 L
CAMT GRP 1 ADRS 19 L
CAMT GRP 1 ADRS 20 L
CAMT GRP 1 ADRS 21 L
CAMT GRP 1 PAR ϕ L

DDPJ VAMUX 15 L
DEPN VAMUX 16 L
DEPN VAMUX 17 L
DEPN VAMUX 18 L
DEPN VAMUX 19 L
DEPN VAMUX 20 L
DEPN VAMUX 21 L

CAMT GRP 1 ADRS 22 L
CAMT GRP 1 ADRS 23 L
CAMT GRP 1 ADRS 24 L
CAMT GRP 1 ADRS 25 L
CAMT GRP 1 ADRS 26 L
CAMT GRP 1 ADRS 27 L
CAMT GRP 1 ADRS 28 L
CAMT GRP 1 PAR 1 L

DEPP VAMUX 22 L
DEPP VAMUX 23 L
DEPP VAMUX 24 L
DEPP VAMUX 25 L
DEPP VAMUX 26 L
DEPP VAMUX 27 L
DEPP VAMUX 28 L

74528 ϕ FUNCTION TABLE

NUMBER OF INPUTS A THRU 1 THAT ARE HIGH	OUTPUTS EVEN EODD
ϕ , 2, 4, 6, 8	H L
1, 3, 5, 7, 9	L H

H = HIGH LEVEL
L = LOW LEVEL

CAMR VAMUX 15 BUFF H
CAMR VAMUX 16 BUFF H
CAMR VAMUX 17 BUFF H
CAMR VAMUX 18 BUFF H
CAMR VAMUX 19 BUFF H
CAMR VAMUX 20 BUFF H
CAMR VAMUX 21 BUFF H
CAMR VAMUX 22 BUFF H

CAMR VAMUX 23 BUFF H
CAMR VAMUX 24 BUFF H
CAMR VAMUX 25 BUFF H
CAMR VAMUX 26 BUFF H
CAMR VAMUX 27 BUFF H
CAMR VAMUX 28 BUFF H
CAMR VAMUX 29 BUFF H
CAMR VAMUX 30 BUFF H

CAMT GRP 1 ADRS 29 L
CAMT GRP 1 ADRS 30 L
CAMT GRP 1 ADRS 31 L

DEPS VAMUX 29 L
DEPS VAMUX 30 L
DEPS VAMUX 31 L
TBM ER REG ϕ 017 H
CAMT GRP 1 VALID L

DC1 ϕ 2 FUNCTION TABLE

INPUTS A B	OUTPUT Y
L L	H
L H	L
H L	L
H H	H

H = HIGH LEVEL
L = LOW LEVEL

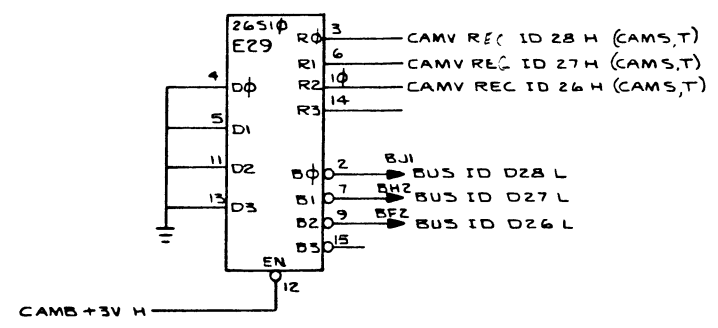
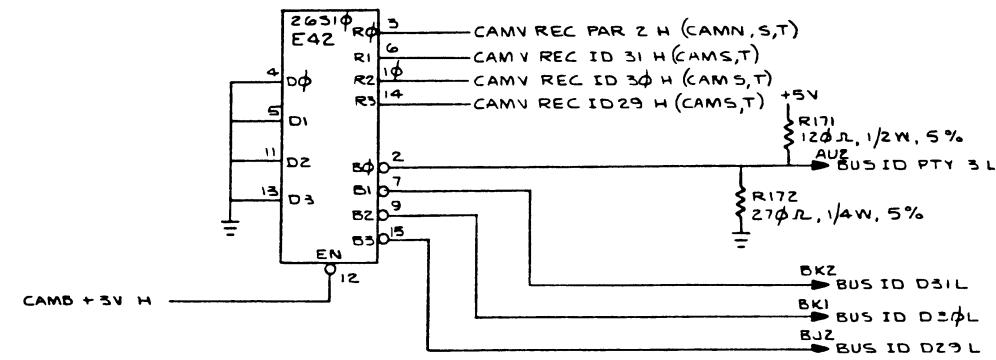
NOTE: THERE IS NO INTERNAL CONNECTION ON PIN 11 OF DC1 ϕ 2

BU2 CAMU TB GRP 1 MATCH H (TBM, D, K)

(SLOT 4)
(TB ADDRESS TAG EQUAL CHECKER & VA MUX PARITY GENERATE)

TITLE: CACHE ADDRESS MATRIX (CAMU)
SCALE: 1/16
SHEET: 18 OF 19
NUMBER: M822 ϕ - ϕ -1
REV: C

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



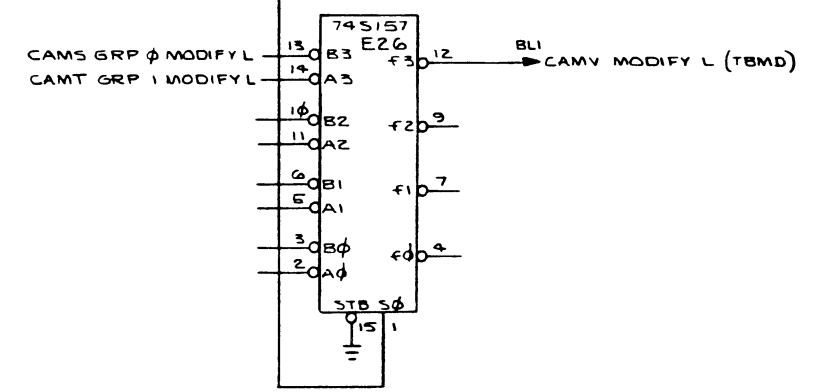
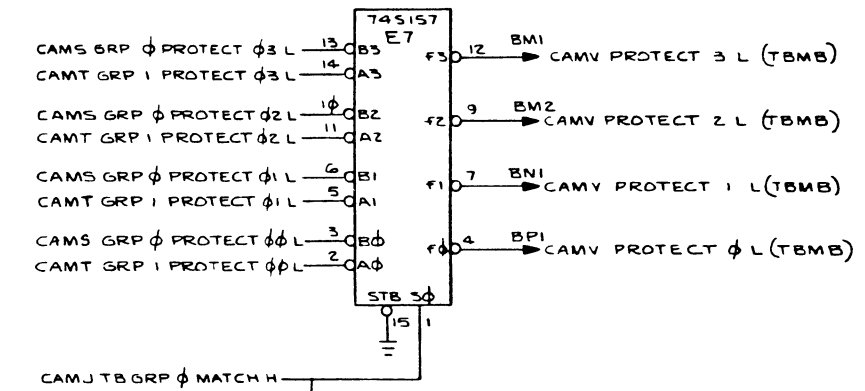
26510 TRUTH TABLE

INPUTS		OUTPUTS	
E	D	Y	Z
L	L	L	L
L	H	L	H
H	X	Y	Y

H = HIGH VOLTAGE LEVEL
L = LOW VOLTAGE LEVEL
X = DON'T CARE
Y = VOLTAGE LEVEL OF BUS (ASSUMES CONTROL BY ANOTHER BUS TRANSCEIVER)

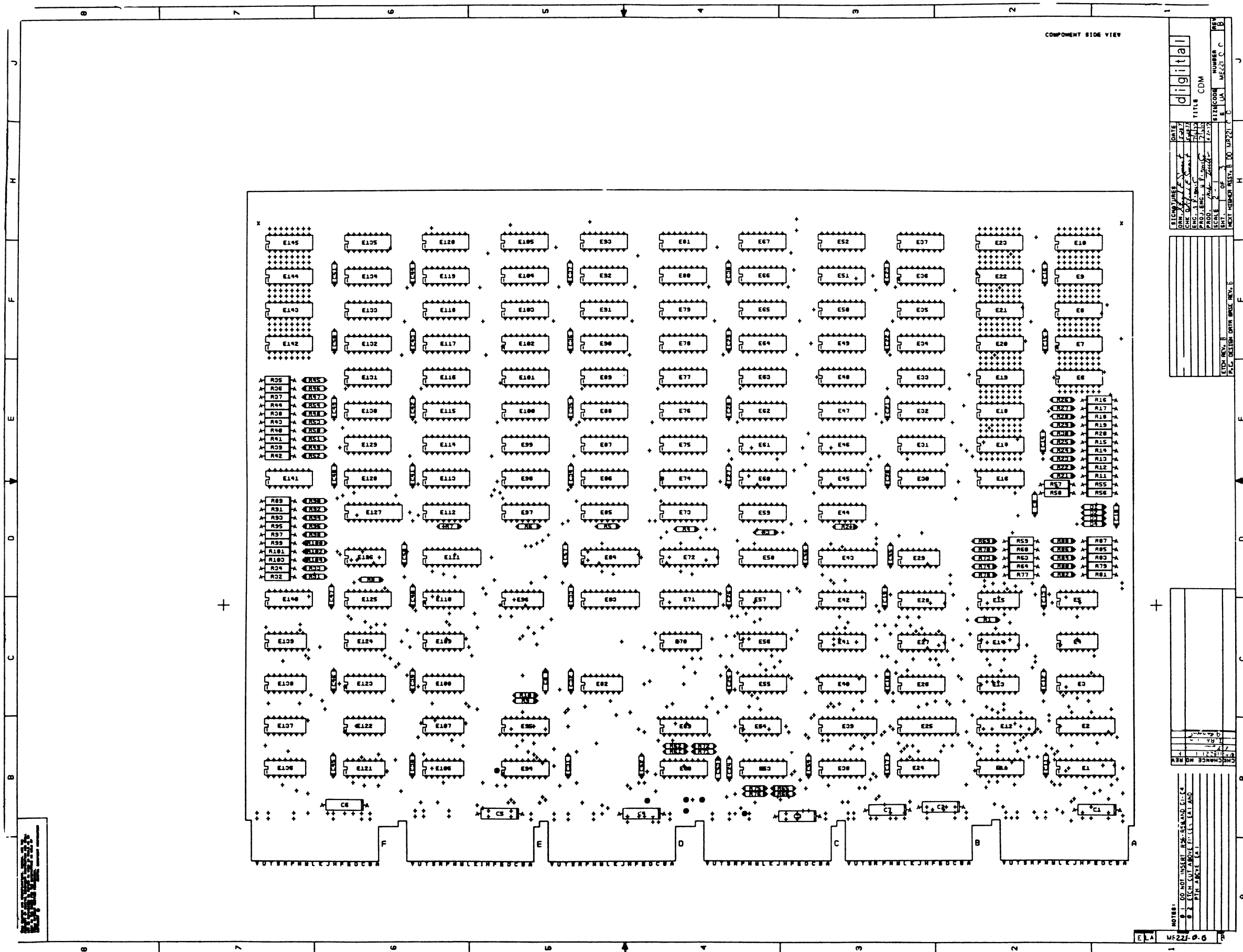
74S157 TRUTH TABLE

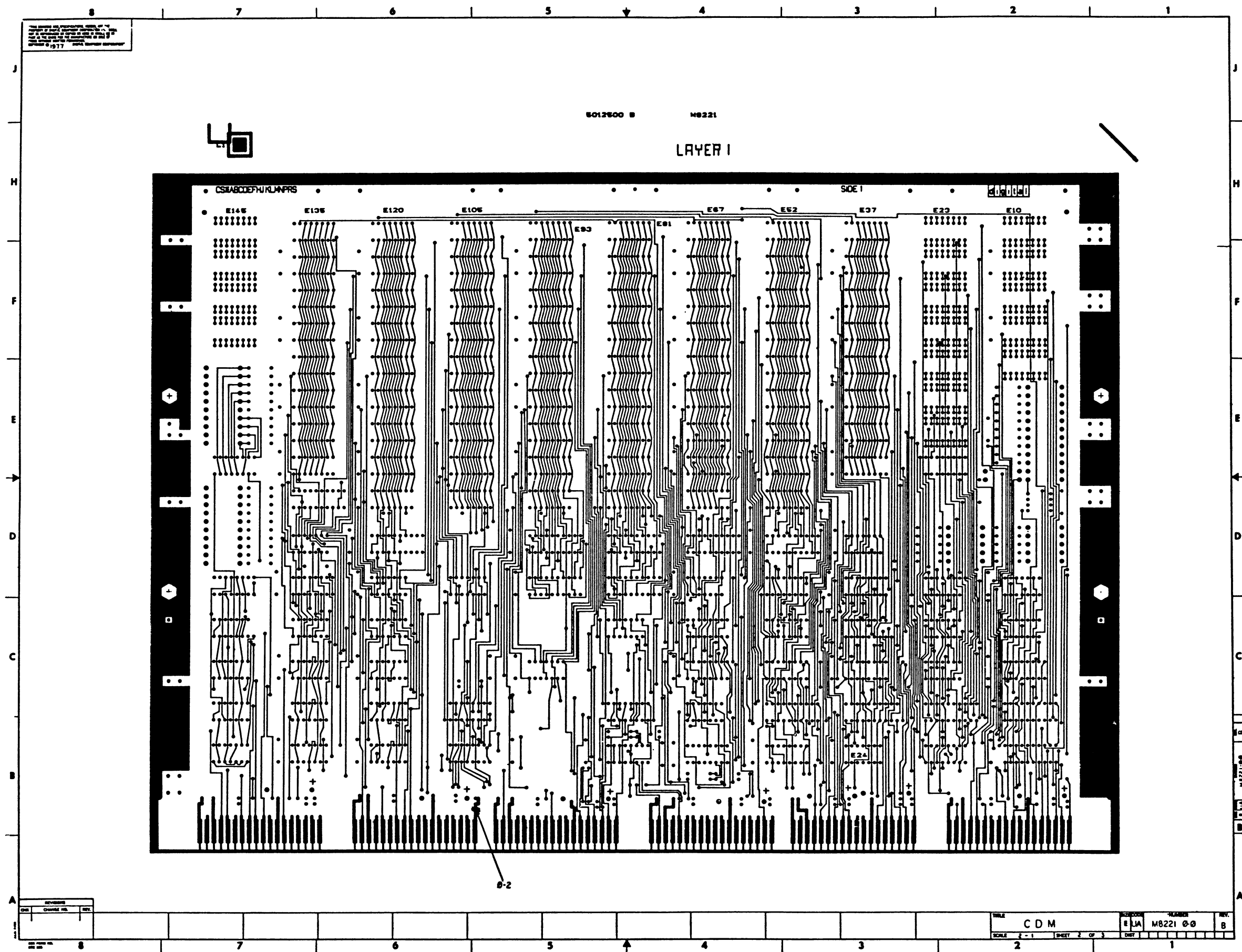
STROKE	INPUTS		OUTPUT S157
	SELECT	A B	
H	X	X X	L
L	L	L X	L
L	L	H X	H
L	H	X L	L
L	H	X H	H

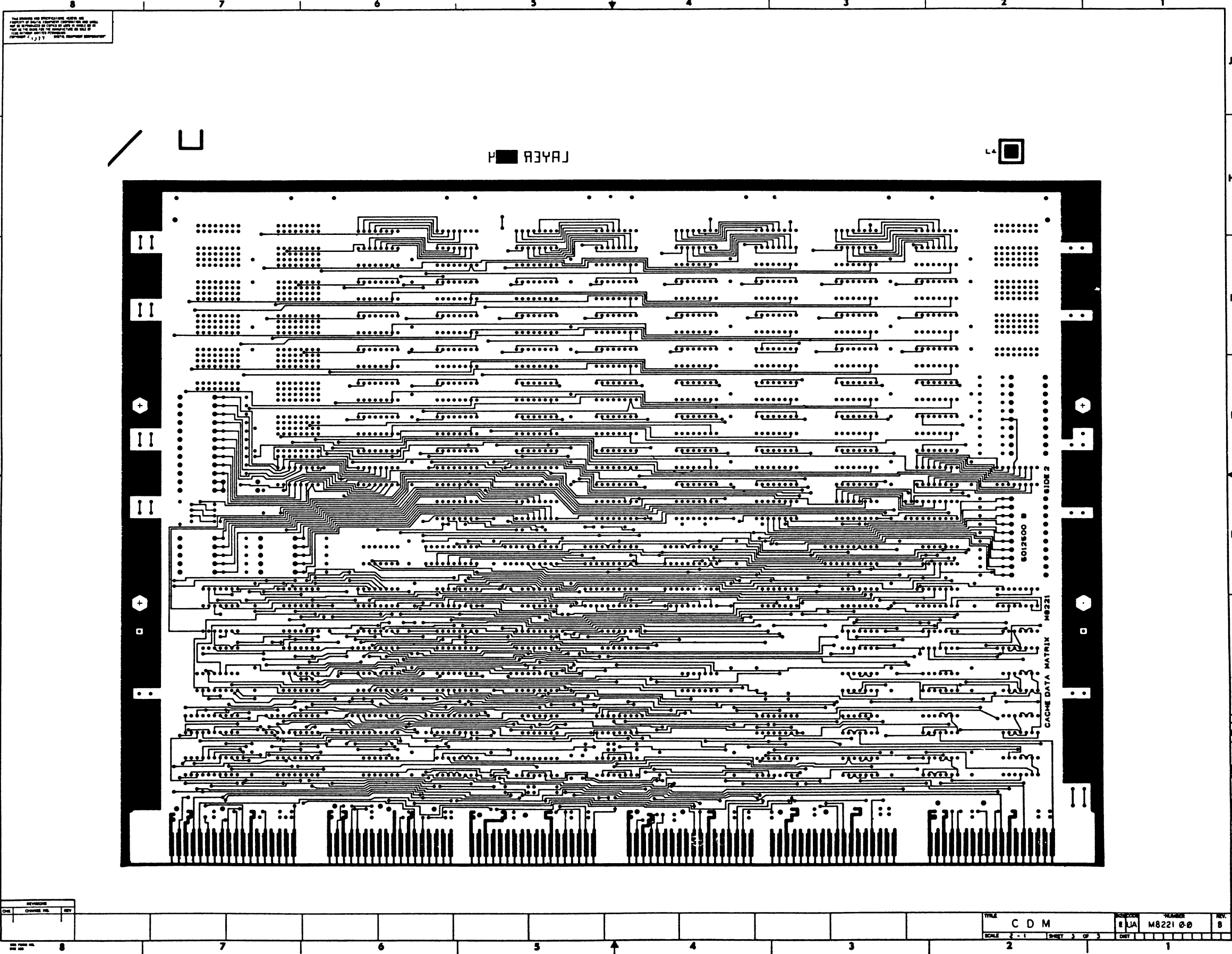


(SLOT 4)

ID TRANSCEIVERS & PROTECTION CODE MUX







THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE
PROPERTY OF THE U.S. GOVERNMENT AND ARE NOT
TO BE REPRODUCED OR COPIED IN ANY MANNER
WITHOUT THE WRITTEN PERMISSION OF THE
GOVERNMENT. (1,1) 17

REVISIONS		
NO.	CHANGE NO.	BY
1		

TITLE			DRAWING		REV.
C D M			E J A M8221 0-0		
SCALE 2 - 1		SHEET 3 OF 3		DIST	B

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:			
MADE BY <i>F. SMART</i> DATE <i>5-26-77</i>		CHECKED <i>F. SMART</i> DATE <i>5-26-77</i>		SECTION															
ENG DATE <i>J. Raynes 7/6/77</i>		PROD DATE <i>M. Teulla 6-21-77</i>		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8221-0-0													REF DESIGNATION		
1	E-MD-5012500-0-0	5012500	ETCH BOARD	1															
2		1012084-01	CAPACITOR, 8.0 uf, 25V	7													C1 thru C7		
3		1012784-00	CAPACITOR, .047 uf 50V +80% -20%	51													C11 thru C54, C8, C9, C10, C55, C56, C57, C58		
4		1300228-00	RESISTOR, 100 OHM, 1/2W, 5%	40													R11 thru R20, R34 thru R44, , R59, R60, R63, R64, R77, R79, R81, R83, R85, R87, R89, R91, R93, R95, R97, R99, R101, R103, R32		
5		1300247-00	RESISTOR, 120 OHM, 1/4W, 5%	5													R10, R61, R62, R65, R66		
6		1300250-00	RESISTOR, 150 OHM, 1/4W, 5%	4													R71, R72, R75, R76		
7		1300447-00	RESISTOR, 4.7K, 1/4W, 5%	8													R1 thru R8		
8		1311522-00	RESISTOR, 200 OHM, 1/4W, 5%	41													R21 thru R31, R45 thru R54, R9, , R69, R70, R73, R74, R78, R80, R82, R84, R86, R88, R90, R92, R94, R96, R98, R100, R102, R104, R33		
9		1300249-00	RESISTOR, 150 Ω 1/2W, 5%	1													R55		
10		1910534-00	I.C. DEC 74S04	2													E109, E124		
11		1910542-00	I.C. DEC 74S64	10													E106, E107, E108, E121, E122, E123, E136, E137, E138, E139		
12		1910546-00	I.C. DEC 74S140	4													E4, E5, E14, E13		
13		1911415-00	I.C. DEC 10125	2													E53, E68		
14		1911469-00	I.C. DEC 8640	1													E54		
15		1911573-00	I.C. DEC 74S280	8													E15, E29 E57, E70, E82 E96, E110 E126		
16		1911641-00	I.C. DEC 74S257	9													E3, E11, E27, E42, E55, E56, E26, E40, E41		
17		1913839-00	I.C. DEC 74LS165	6													E28, E38 E125 E140, E95, E69		
ECO NO. 10000																			
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE CACHE DATA MATRIX				ASSY NO. E-UA-M8221-0-0				SIZE B	CODE PL	NUMBER M8221-0-0		REV B			
								SHEET 1 OF 2				INSERTION PARTS LIST DATA BASE REV							

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:			
MADE BY <i>F. SMART</i> DATE <i>5-26-77</i>		CHECKED <i>F. SMART</i> DATE <i>5-26-77</i>		SECTION															
ENG <i>J. Ragwer</i> DATE <i>7/6/77</i>		PROD <i>Mike Tenille</i> DATE <i>6-21-77</i>		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8221-0-0													REF DESIGNATION		
18		1912860-00	I.C. DEC 74LS259	1													E94		
19		19-13670-00	I.C. DEC 74S373	5													E1 E2,E12,E25,E39		
20		19-13662-00	I.C. DEC 93425-A	72													E59 thru E67,E73 thru E81,E16,E30 thru E37,E44 thru E52,E85 thru E93,E97 thru E105,E112 thru E120,E128 thru E135,E141		
21			I.C. DEC SPARE	7													E6 thru E10,F17,E18		
22			I.C. DEC SPARE	12													E19 thru E24,E142 thru E145		
23		1913462-00	I.C. DEC 74S240	8													E83,E84,E111,E127,E43,E58,E71,E72		
24		1210711-2	HANDLE	1															
25		9000024-01	EYELETS	12															

E.C.O. NO.

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT ©1977 DIGITAL EQUIPMENT CORPORATION

TITLE

CACHE DATA MATRIX

ASSY NO.

E-UA-M8221-0-0

SHEET

2

OF

2

SIZE

B

CODE

PL

NUMBER

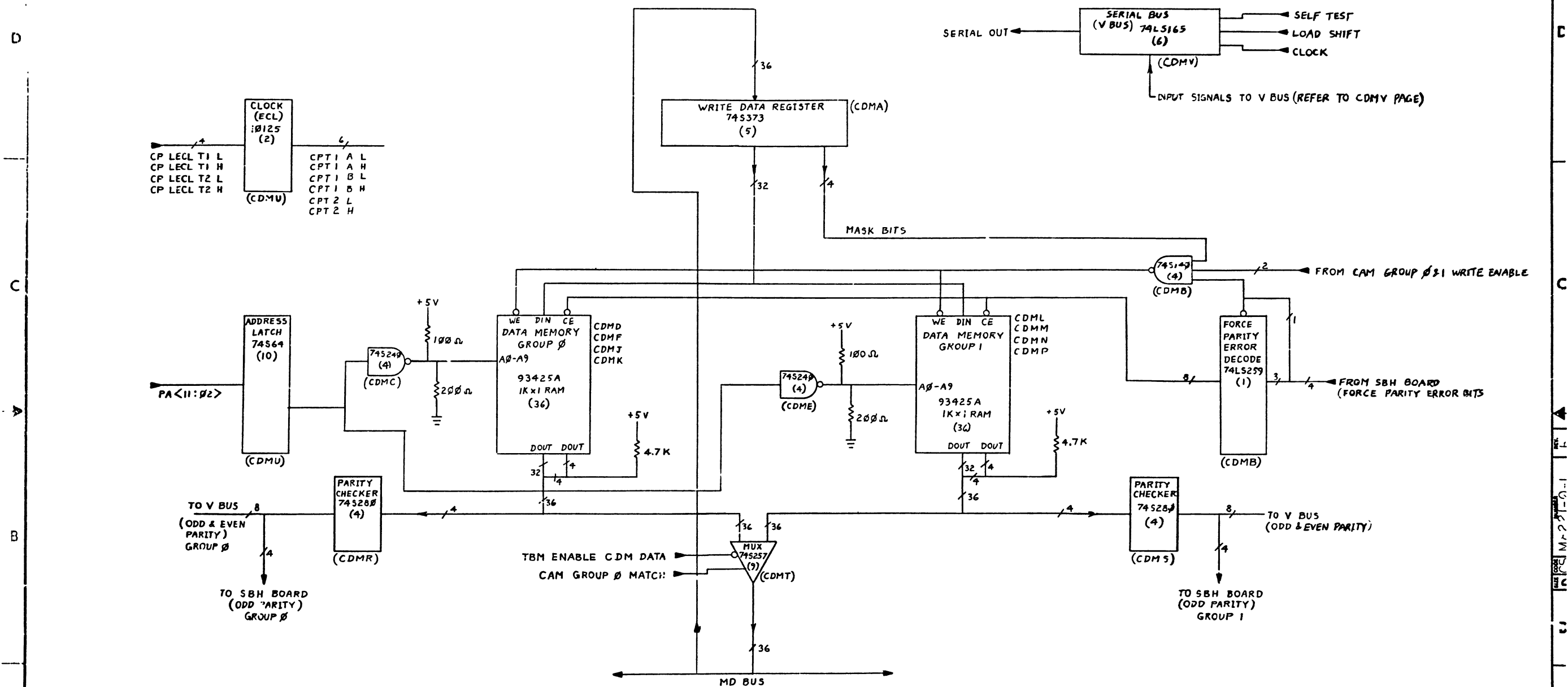
M8221-0-0

REV.

B

INSERTION PARTS LIST DATA BASE REV

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION

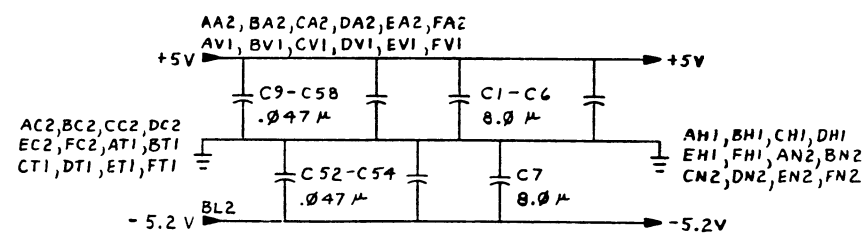
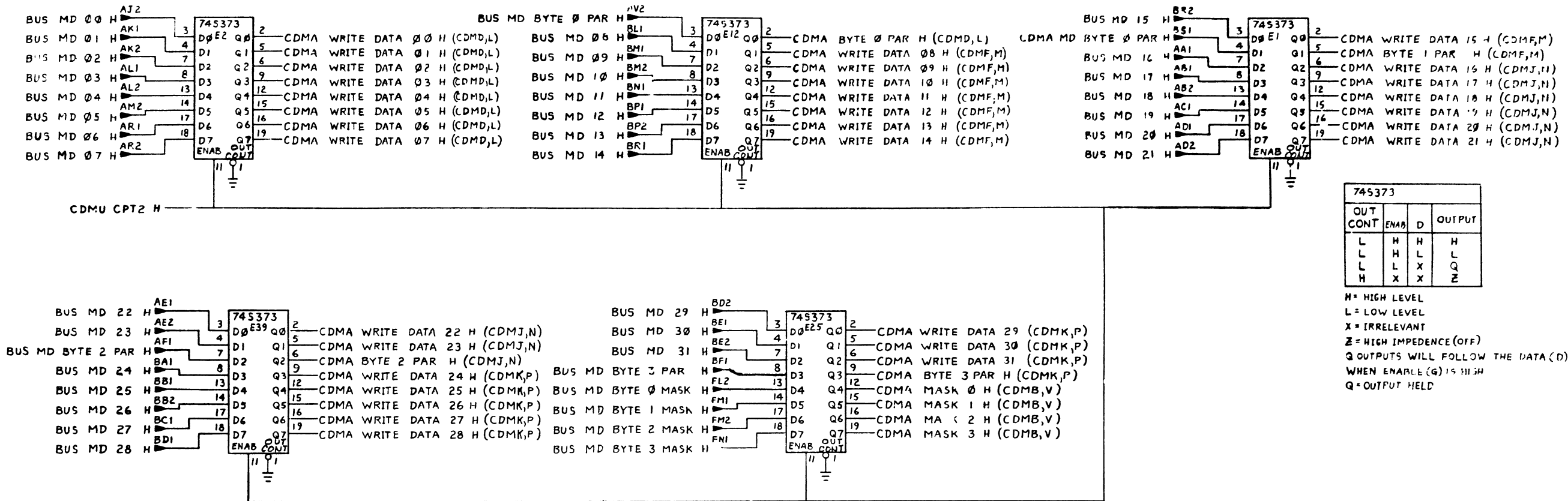


(BLOCK DIAGRAM) (SLOT 5)

DRN. 11	5/2/77	FIRST USED ON	digital
CHK'D 11	7/6/77	TITLE	CACHE DATA MATRIX (CDM)
ENG. 11	8/16/77	PROD. ENG. 11	8/16/77
PROD. 11	8/16/77	NEXT HIGHER ASSY.	
SCALE 11		SIZE CODE	D CS M8221-0-1
SHEET 1 OF 19		NUMBER	REV. B

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-1228W 2 1

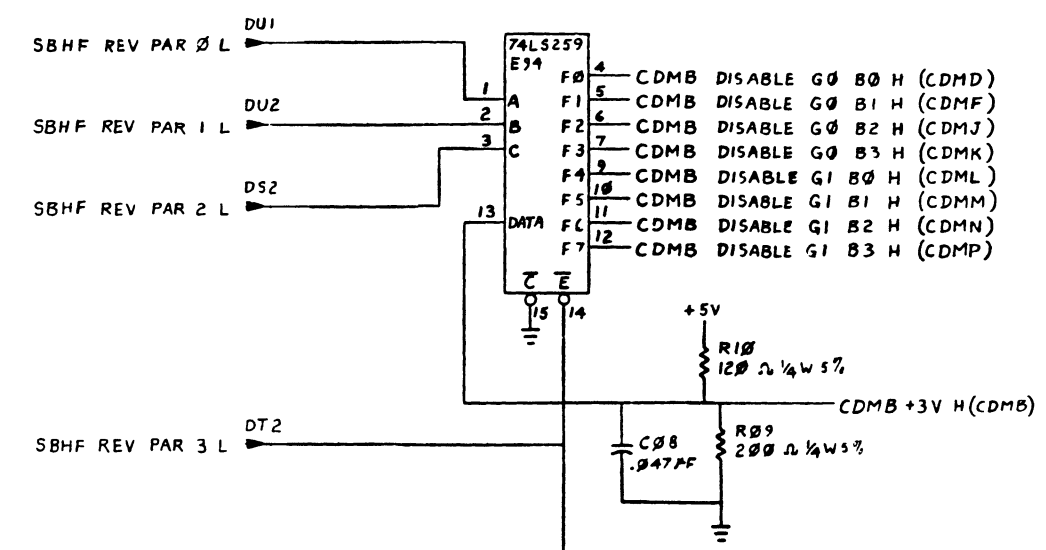


REVISIONS		
CHK	CHANGE NO.	REV.

(CDM WRITE DATA REGISTERS) (SLOT 5)

TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMA)	D	CS M8221-0-1	B
SCALE	SHEET	2 OF 19	DIST.

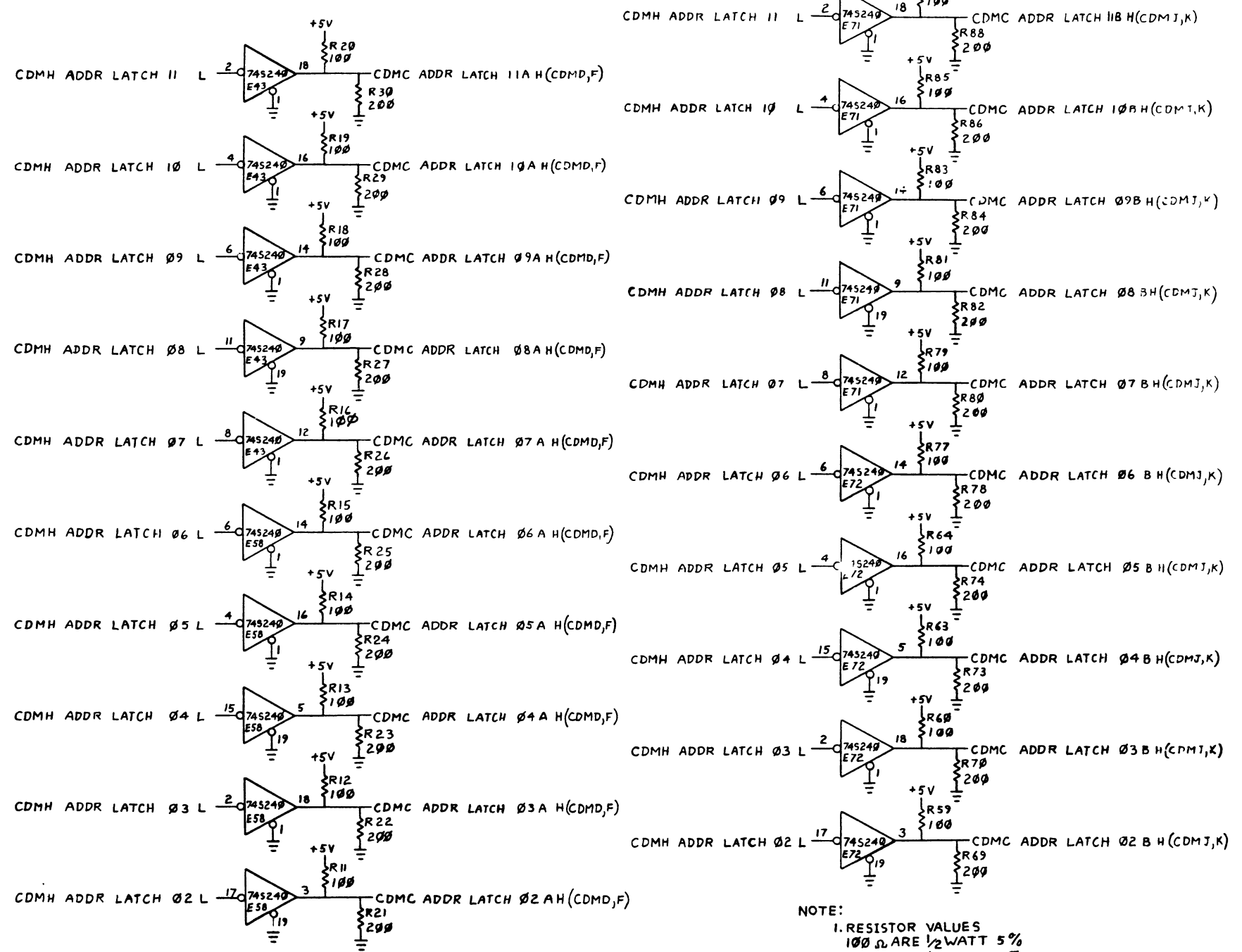
THIS OUTPUT WILL BE HIGH
OTHER OUTPUTS WILL BE LOW



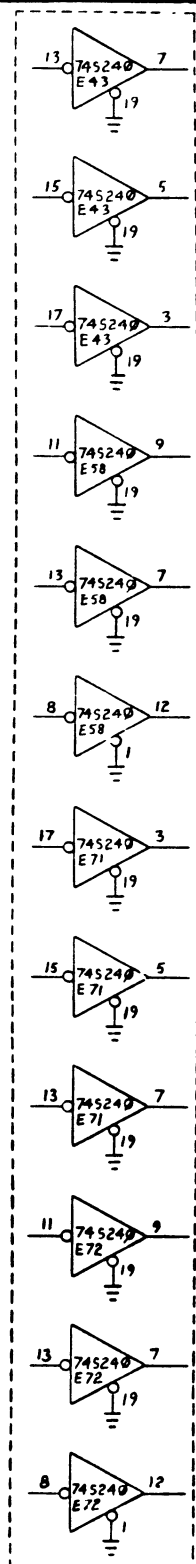
TITLE CACHE DATA MATRIX (CDMB)		SIZE D	CODE CS	NUMBER M3221-0-1				REV. B
SCALE --	SHEET 3 OF 19	DIST.						

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-1228W SCQ 2



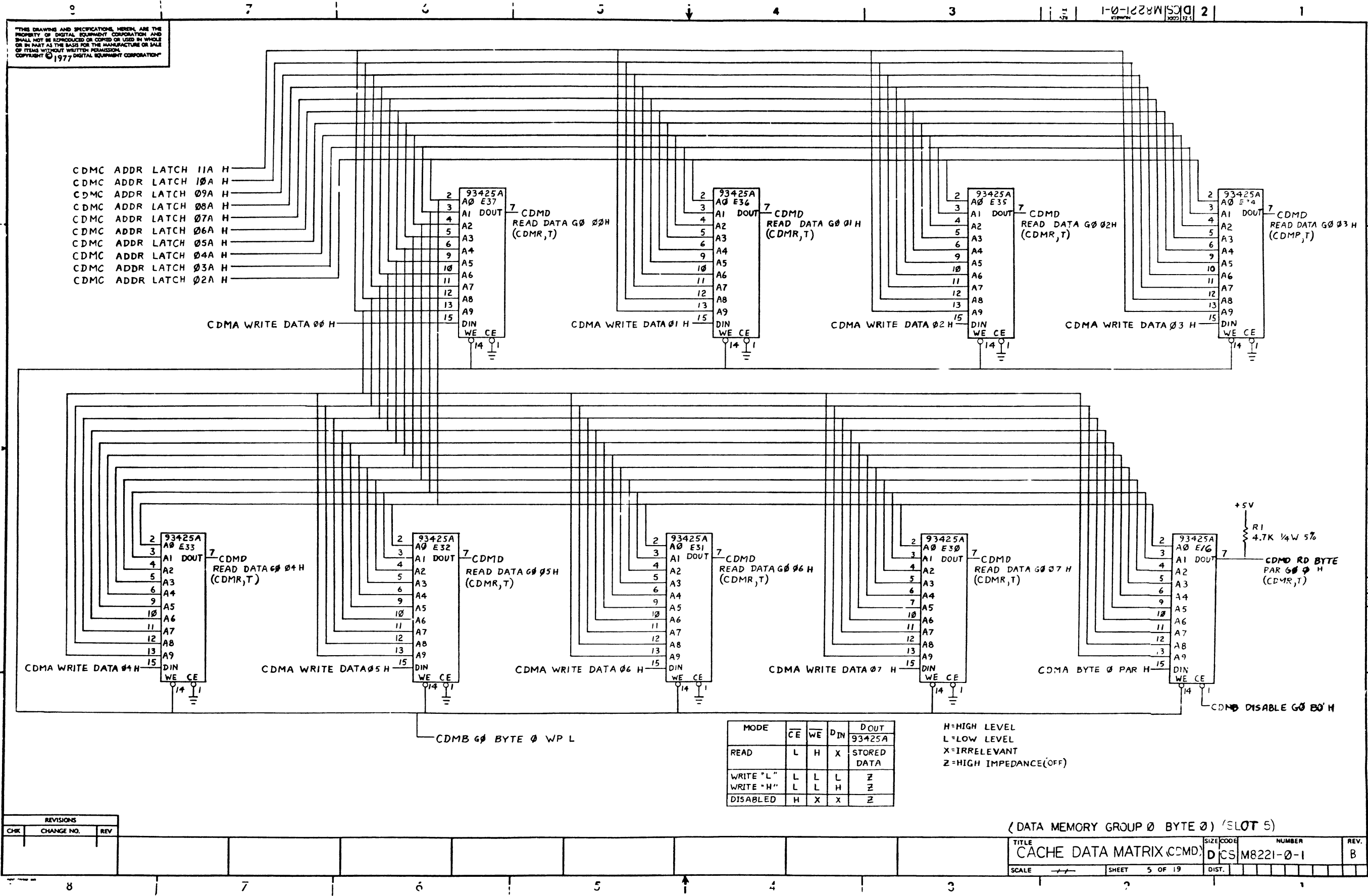
NOTE:
1. RESISTOR VALUES
100Ω ARE 1/2 WATT 5%
200Ω ARE 1/4 WATT 5%



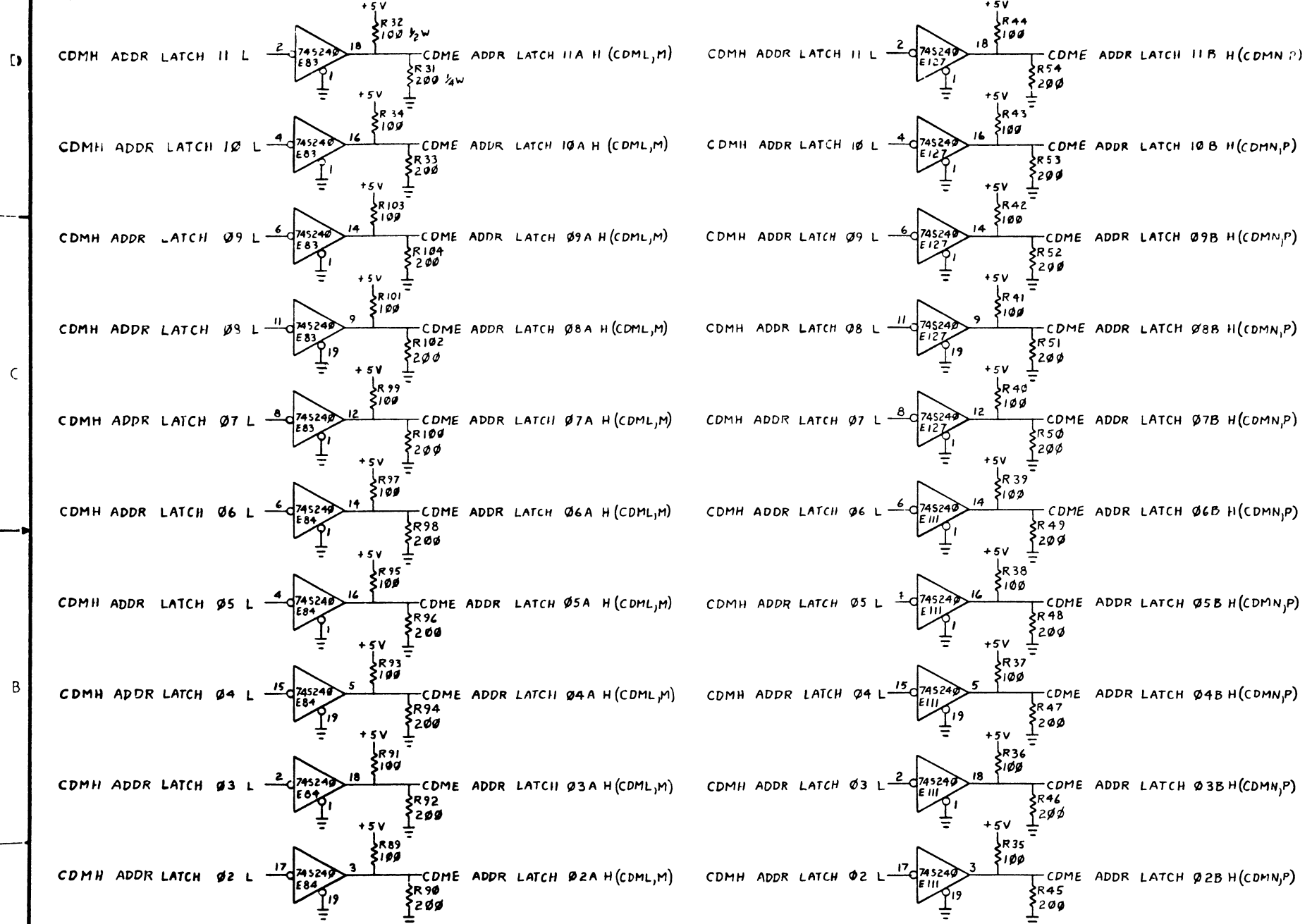
SPARE GROUP 0 ADDRESS LINE DRIVERS (SLOT 5)

REVISIONS		
CHK	CHANGE NO.	REV.

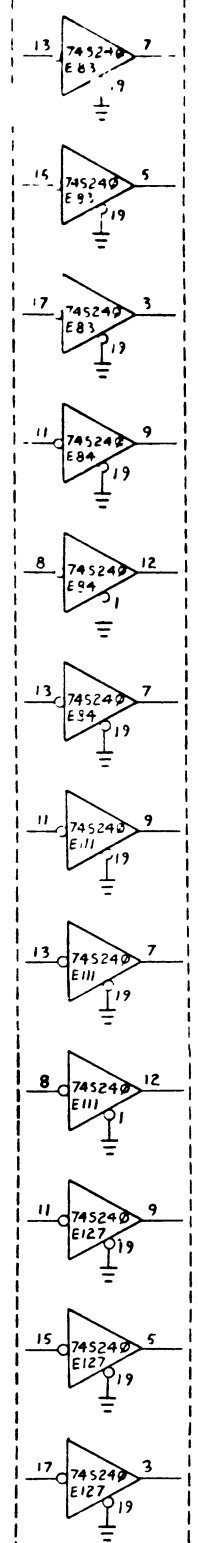
TITLE		SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMC)		D	CSM8221-0-1	B
SCALE		SHEET	4 OF 19	DIST.



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

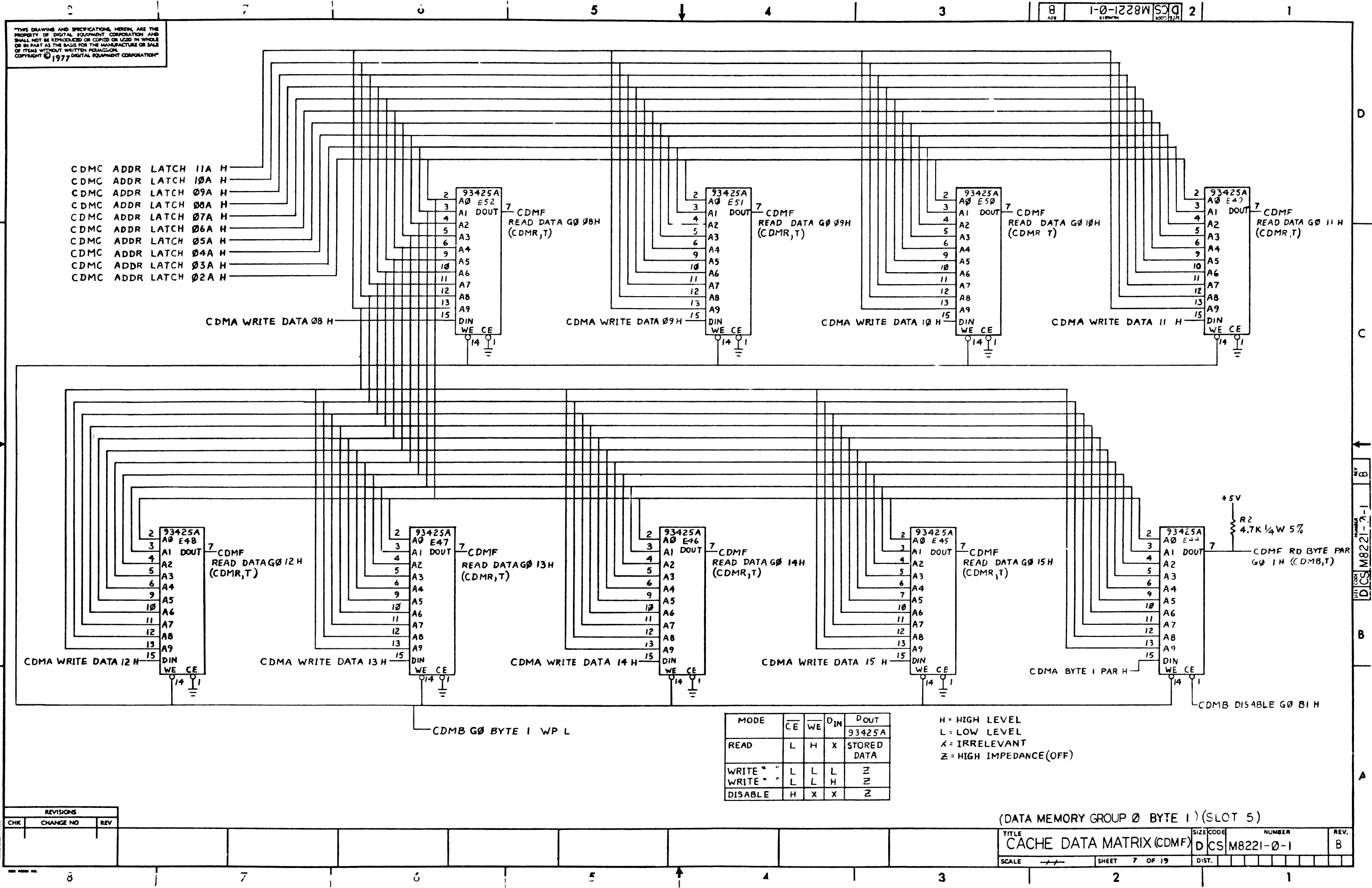


NOTE:
1. RESISTOR VALUES
100Ω ARE 1/2 WATT 5%
200Ω ARE 1/4 WATT 5%



(SLOT 5)
SPARE GROUP I ADDRESS LINE DRIVERS

REVISIONS									TITLE		SIZE CODE	NUMBER	REV.
CHK	CHANGE NO.	REV.							CACHE DATA MATRIX (CDME)		D	CS M8221-0-1	B
									SCALE	SHEET	6 OF 19	DIST.	



"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

REVISIONS		
CHK	CHANGE NO	REV

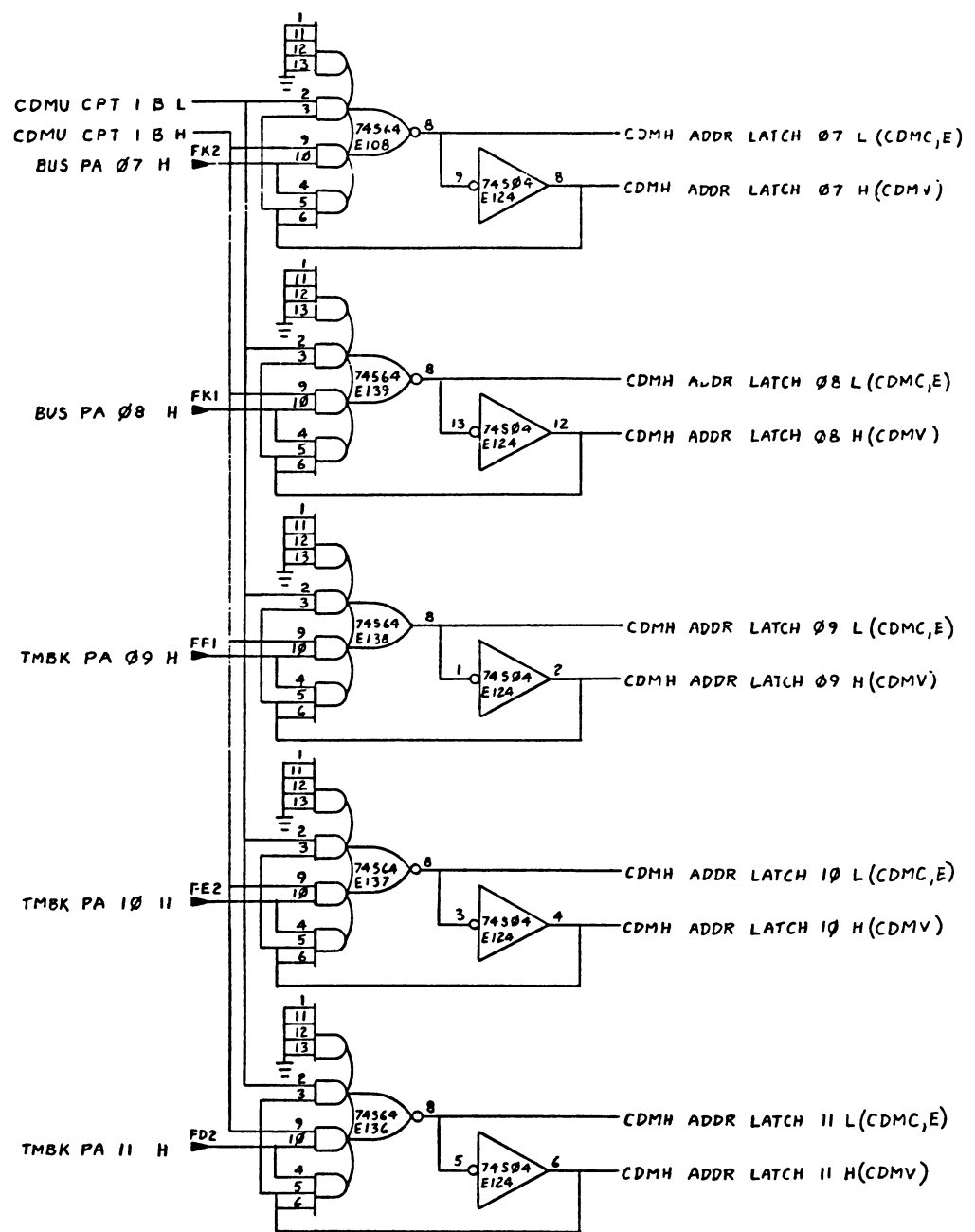
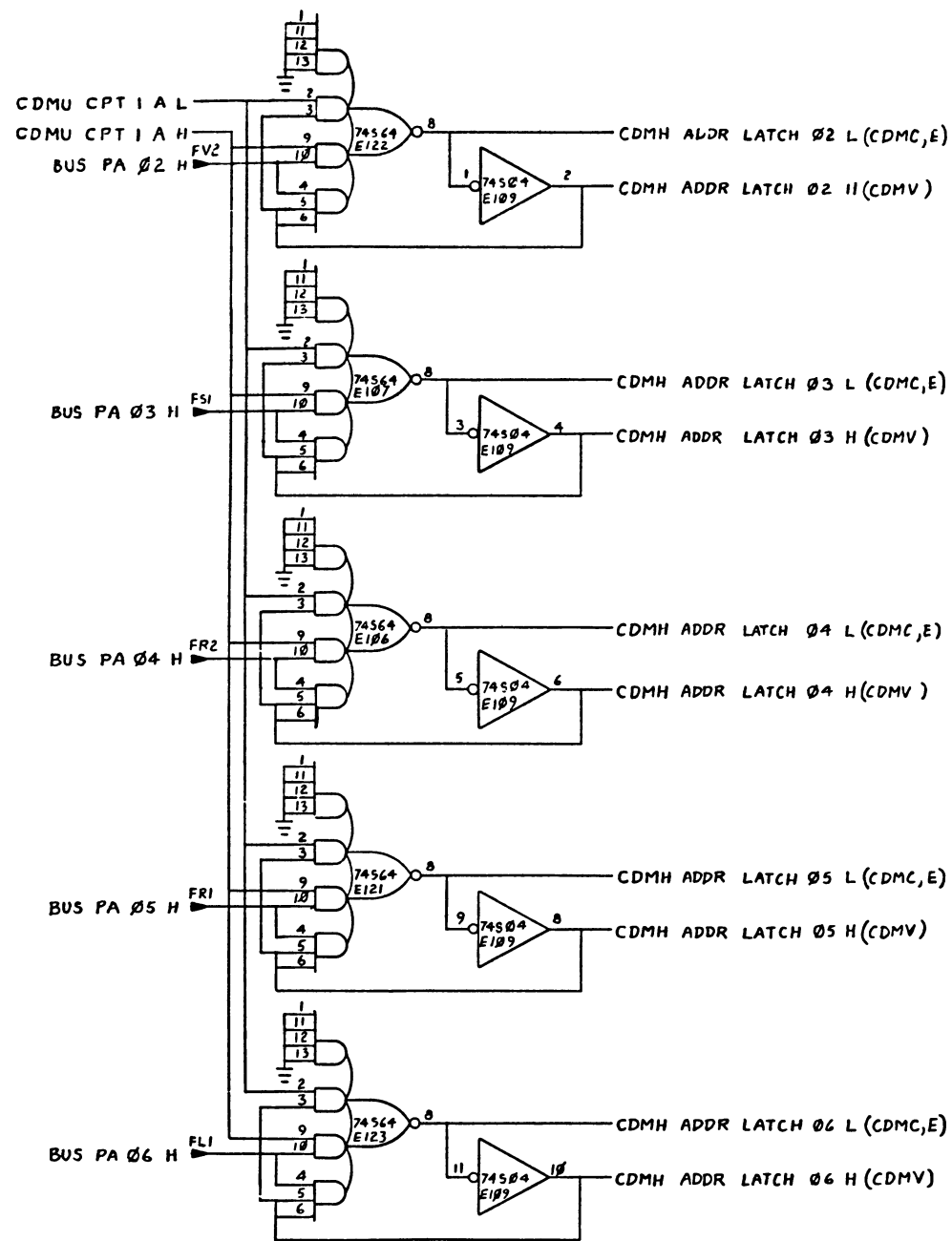
MODE	CE	WE	DIN	DOUT
READ	L	H	X	STORED DATA
WRITE	L	L	L	Z
WRITE	L	L	H	Z
DISABLE	H	X	X	Z

H = HIGH LEVEL
L = LOW LEVEL
X = IRRELEVANT
Z = HIGH IMPEDANCE(OFF)

(DATA MEMORY GROUP 0 BYTE 1) (SLOT 5)

TITLE	SIZE	CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMF)	D	CS	M8221-0-1	B
SCALE	SHEET	7 OF 19	DIST.	

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

(ADDRESS LATCH LOGIC) (SLOT 5)

TITLE		SIZE	CODE	NUMBER		REV.
CACHE DATA MATRIX (CDMH)		D	CS	M8221-0-1		E
SCALE		SHEET		DIST.		

1-0-12228W

2

DATE 10-1-77

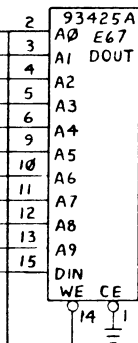
NAME M8221-0-1

REV. E

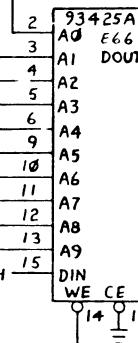
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

CDMC ADDR LATCH 11B H
 CDMC ADDR LATCH 10B H
 CDMC ADDR LATCH 09B H
 CDMC ADDR LATCH 08B H
 CDMC ADDR LATCH 07B H
 CDMC ADDR LATCH 06B H
 CDMC ADDR LATCH 05B H
 CDMC ADDR LATCH 04B H
 CDMC ADDR LATCH 03B H
 CDMC ADDR LATCH 02B H

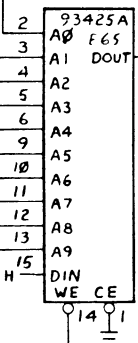
CDMA WRITE DATA 16 H



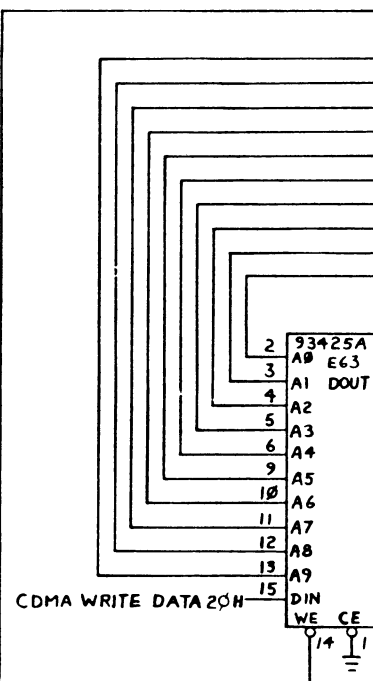
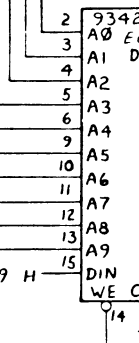
CDMA WRITE DATA 17 H



CDMA WRITE DATA 18 H

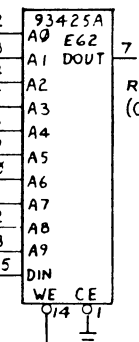


CDMA WRITE DATA 19 H

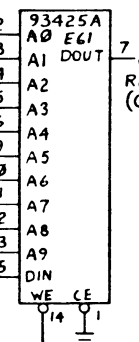


CDMA WRITE DATA 20 H

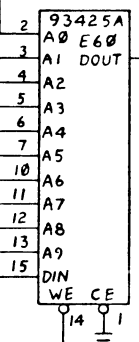
CDMA WRITE DATA 21 H



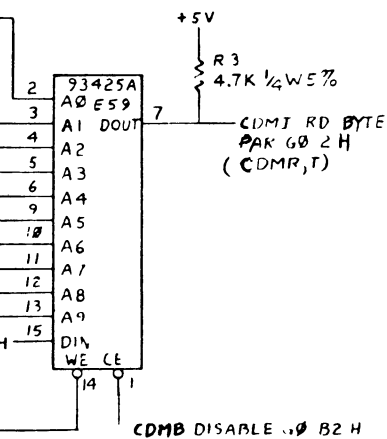
CDMA WRITE DATA 22 H



CDMA WRITE DATA 23 H



CDMA BYTE 2 PAP H



CDMB G0 BYTE 2 WP L

MODE	CE	WE	DIN	DOUT
READ	L	H	X	STORED DATA
WRITE "L"	L	L	L	Z
WRITE "H"	L	L	H	Z
DISABLE	H	X	X	Z

H - HIGH LEVEL
 L - LOW LEVEL
 X - IRRELEVANT
 Z - HIGH IMPEDANCE (OFF)

REVISIONS		
CHK	CHANGE NO	REV

(DATA MEMORY GROUP 0 BYTE 2) SLOT 5

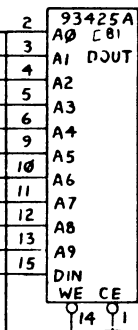
TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMJ)	D CS	M8221-0-1	8
SCALE	SHEET 9 OF 19	DIS	

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-1228W DCS M8221-0-1 2

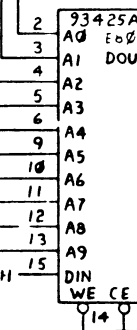
CDMC ADDR LATCH 11B H
 CDMC ADDR LATCH 10B H
 CDMC ADDR LATCH 09B H
 CDMC ADDR LATCH 08B H
 CDMC ADDR LATCH 07B H
 CDMC ADDR LATCH 06B H
 CDMC ADDR LATCH 05B H
 CDMC ADDR LATCH 04B H
 CDMC ADDR LATCH 03B H
 CDMC ADDR LATCH 02B H

CDMA WRITE DATA 24 H



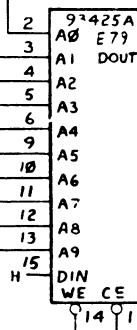
7 CDMK
 READ DATA G# 24 H
 (CDMR, T)

CDMA WRITE DATA 25 H



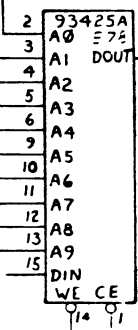
7 CDMK
 READ DATA G# 25 H
 (CDMR, T)

CDMA WRITE DATA 26 H

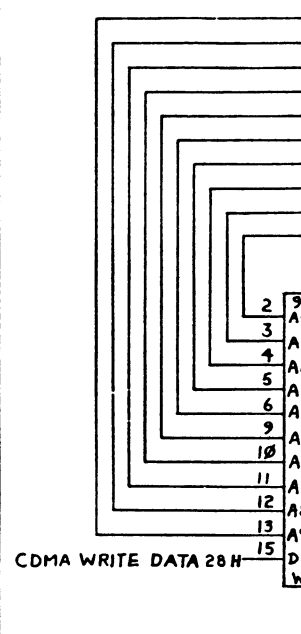


7 CDMK
 READ DATA G# 26 H
 (CDMR, T)

CDMA WRITE DATA 27 H



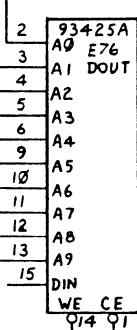
7 CDMK
 READ DATA G# 27 H
 (CDMR, T)



CDMA WRITE DATA 28 H

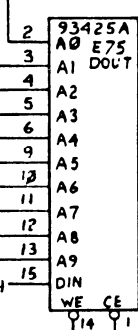
7 CDMK
 READ DATA G# 28 H
 (CDMR, T)

CDMA WRITE DATA 29 H



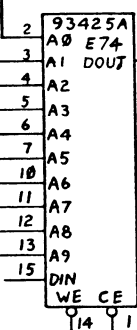
7 CDMK
 READ DATA G# 29 H
 (CDMR, T)

CDMA WRITE DATA 30 H



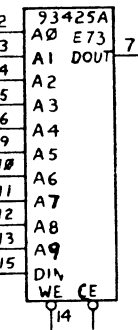
7 CDMK
 READ DATA G# 30 H
 (CDMR, T)

CDMA WRITE DATA 31 H



7 CDMK
 READ DATA G# 31 H
 (CDMR, T)

CDMA BYTE 3 PAR H



+5V
 R4
 4.7K 1/4W 5%

CDMK RD BYTE
 G# 32 H
 (CDMR, T)

CDMB DISABLE G# 33 H

CDMB G# BYTE 3 WP L

MODE	CE	WE	DIN	DOUT
READ	L	11	X	93425A STORED DATA
WRITE "L"	L	L	L	Z
WRITE "H"	L	L	H	Z
DISABLE	11	X	X	Z

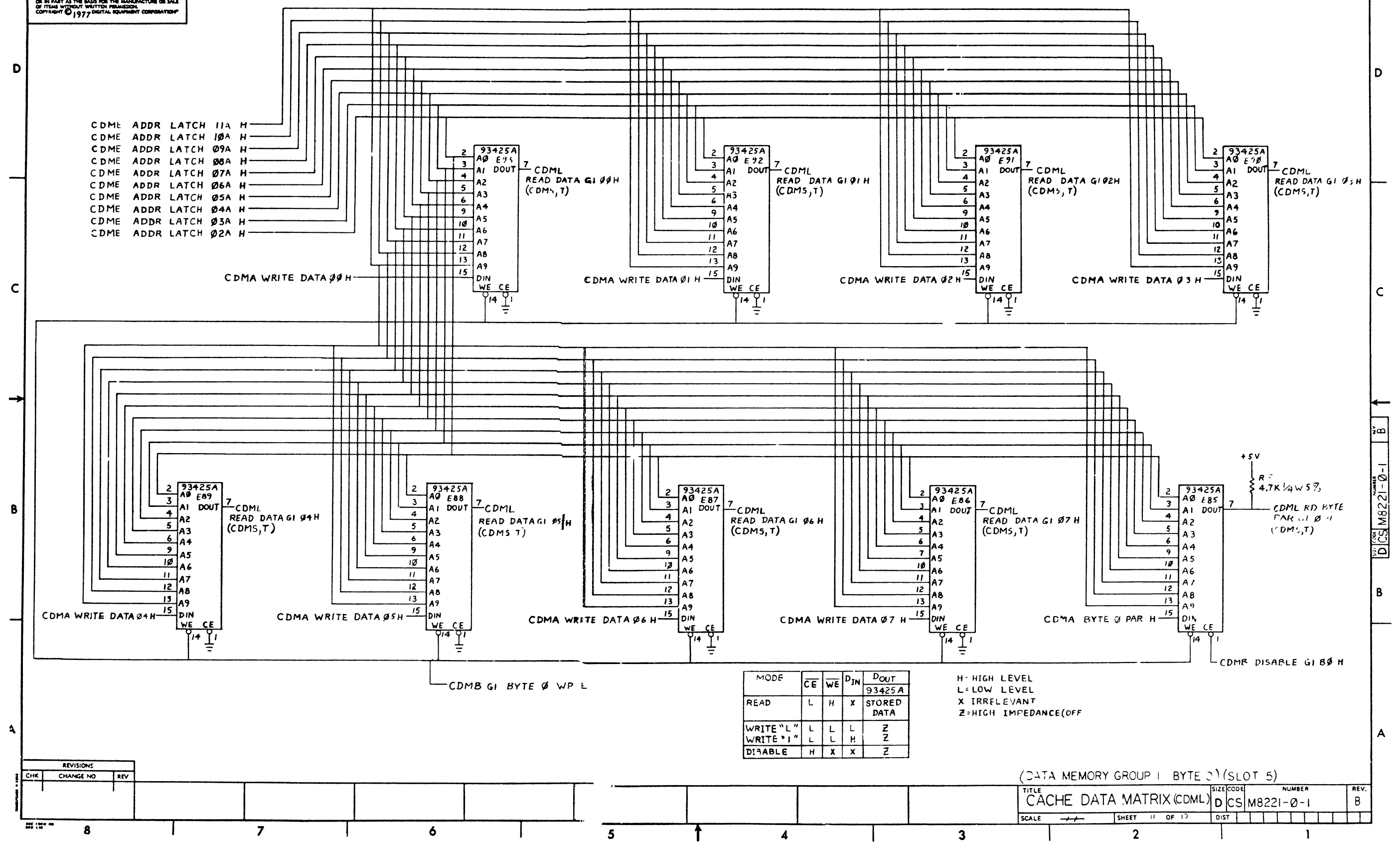
H=HIGH LEVEL
 L=LOW LEVEL
 X=IRRELEVANT
 Z=HIGH IMPEDANCE

(DATA MEMORY GROUP 0 BYTE 3) (SLOT 5)

REV	CHANGE NO	CHK

TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMK)	DCS	M8221-0-1	B
SCALE	SHEET	10 OF 19	DIST.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977



MODE	CE	WE	DIN	DOUT
READ	L	H	X	STORED DATA
WRITE "L"	L	L	L	Z
WRITE "I"	L	L	H	Z
DISABLE	H	X	X	Z

H=HIGH LEVEL
L=LOW LEVEL
X=IRRELEVANT
Z=HIGH IMPEDANCE(OFF)

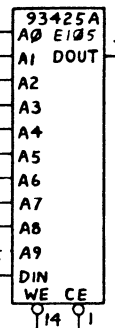
REVISIONS		
CHK	CHANGE NO	REV

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

8 1-0-228W 2 DCS M8221-0-1

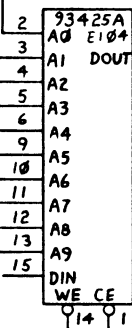
CDME ADDR LATCH 11A H
CDME ADDR LATCH 10A H
CDME ADDR LATCH 09A H
CDME ADDR LATCH 08A H
CDME ADDR LATCH 07A H
CDME ADDR LATCH 06A H
CDME ADDR LATCH 05A H
CDME ADDR LATCH 04A H
CDME ADDR LATCH 03A H
CDME ADDR LATCH 02A H

CDMA WRITE DATA 08H



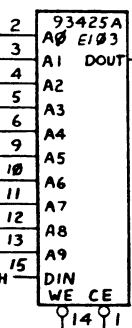
CDMM READ DATA GI 08 H
(CDMS,T)

CDMA WRITE DATA 09H



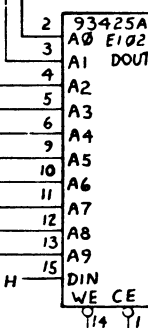
CDMM READ DATA GI 09 H
(CDMS,T)

CDMA WRITE DATA 10H

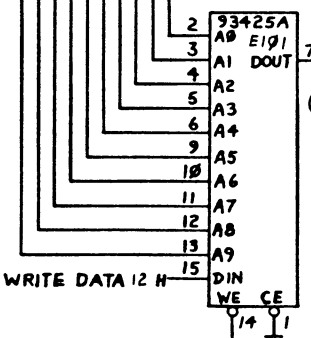


CDMM READ DATA GI 10 H
(CDMS,T)

CDMA WRITE DATA 11H

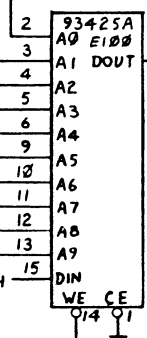


CDMM READ DATA GI 11 H
(CDMS,T)



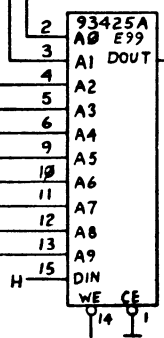
CDMM READ DATA GI 12 H
(CDMS,T)

CDMA WRITE DATA 12 H



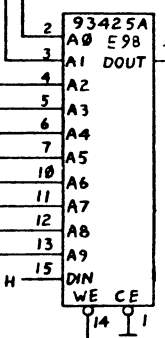
CDMM READ DATA GI 13 H
(CDMS,T)

CDMA WRITE DATA 13 H



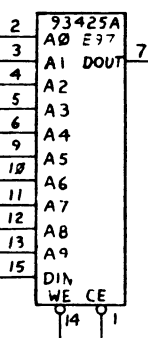
CDMM READ DATA GI 14 H
(CDMS,T)

CDMA WRITE DATA 14 H



CDMM READ DATA GI 15 H
(CDMS,T)

CDMA WRITE DATA 15 H



CDMM READ DATA GI 16 H
(CDMS,T)

+5V
R6
4.7K 1/4W 5%
CDMM RD BYTE PAR
GI 1 H
(CDMS,T)

CDMB DISABLE GI 01 H

CDMB GI BYTE 1 WP L

MODE	CE	WE	DIN	DOUT
READ	L	H	X	STORED DATA
WRITE "L"	L	L	L	Z
WRITE "H"	L	L	H	Z
DISABLE	H	X	X	Z

H-HIGH LEVEL
L-LOW LEVEL
X-IRRELEVANT
Z-HIGH IMPEDANCE

REVISIONS		
CHK	CHANGE NO	REV

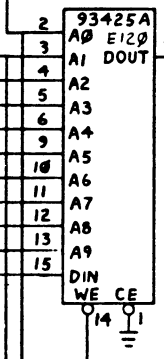
(DATA MEMORY GROUP 1 BYTE 1) (SLOT 5)

TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMM)	DCS M8221-0-1	B	B
SCALE	SHEET 12 OF 19	DIST.	

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

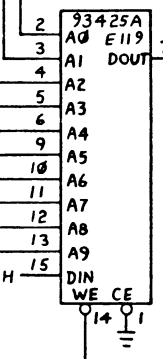
- CDME ADDR LATCH 11B H
- CDME ADDR LATCH 10B H
- CDME ADDR LATCH 09B H
- CDME ADDR LATCH 08B H
- CDME ADDR LATCH 07B H
- CDME ADDR LATCH 06B H
- CDME ADDR LATCH 05B H
- CDME ADDR LATCH 04B H
- CDME ADDR LATCH 03B H
- CDME ADDR LATCH 02B H

CDMA WRITE DATA 16 H



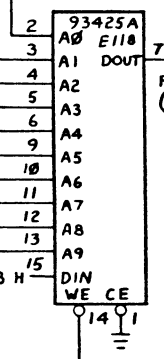
CDMN READ DATA G1 16 H (CDMS,T)

CDMA WRITE DATA 17 H



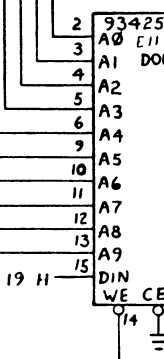
CDMN READ DATA G1 17 H (CDMS,T)

CDMA WRITE DATA 18 H

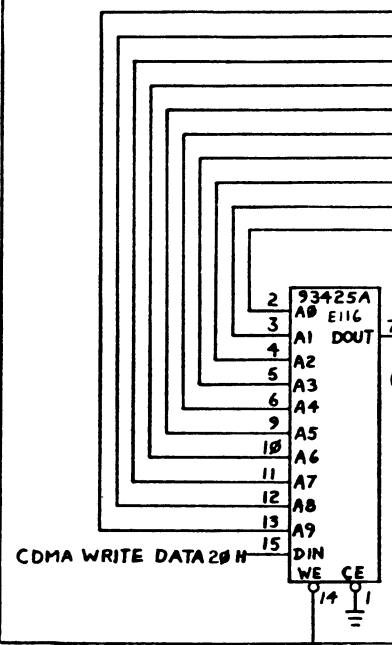


CDMN READ DATA G1 18 H (CDMS,T)

CDMA WRITE DATA 19 H

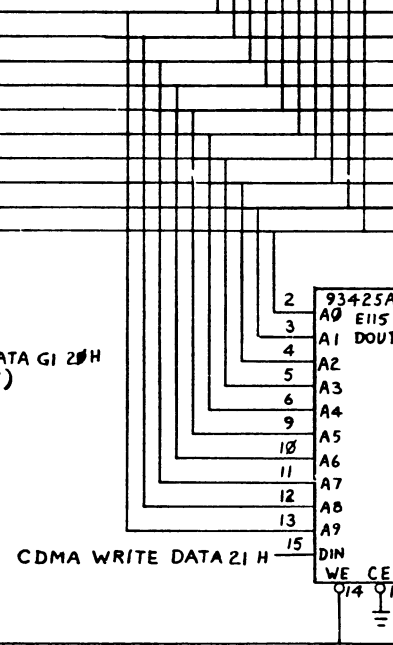


CDMN READ DATA G1 19 H (CDMS,T)



CDMN READ DATA G1 20 H (CDMS,T)

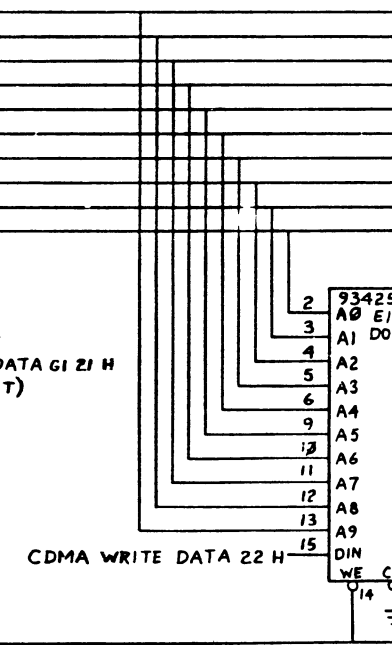
CDMA WRITE DATA 20 H



CDMN READ DATA G1 21 H (CDMS,T)

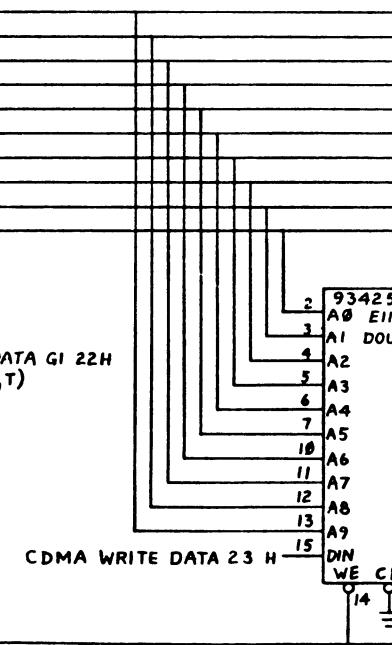
CDMA WRITE DATA 21 H

CDMB G1 BYTE 2 WP L



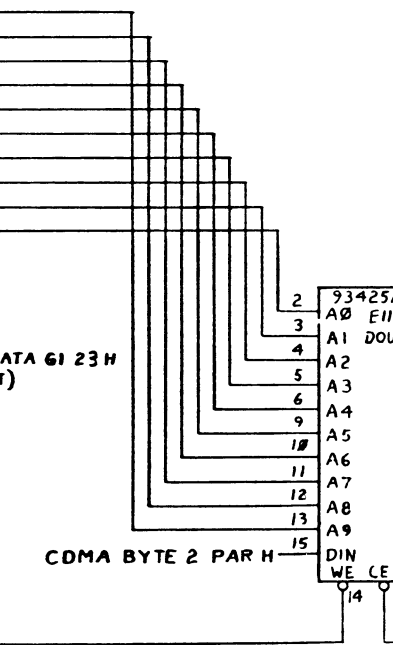
CDMN READ DATA G1 22 H (CDMS,T)

CDMA WRITE DATA 22 H



CDMN READ DATA G1 23 H (CDMS,T)

CDMA WRITE DATA 23 H



CDMN RD BYTE PAR G1 24 H (CDMS,T)

CDMA BYTE 2 PAR H

CDMB DISABLE G1 82 H

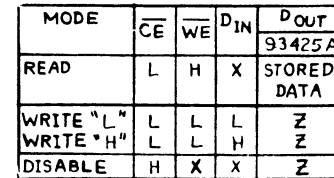
MODE	CE	WE	DIN	DOUT
READ	L	H	X	STORED DATA
WRITE "L"	L	L	L	Z
WRITE "H"	L	L	H	Z
DISABLE	H	X	X	Z

H = HIGH LEVEL
L = LOW LEVEL
X = IRRELEVANT
Z = HIGH IMPEDANCE(OFF)

REVISIONS		
CHK	CHANGE NO.	REV.

(DATA MEMORY GROUP 1 BYTE 2 (SLOT 5))

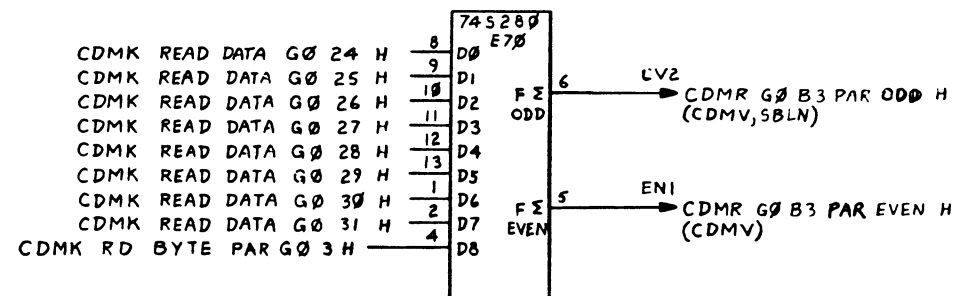
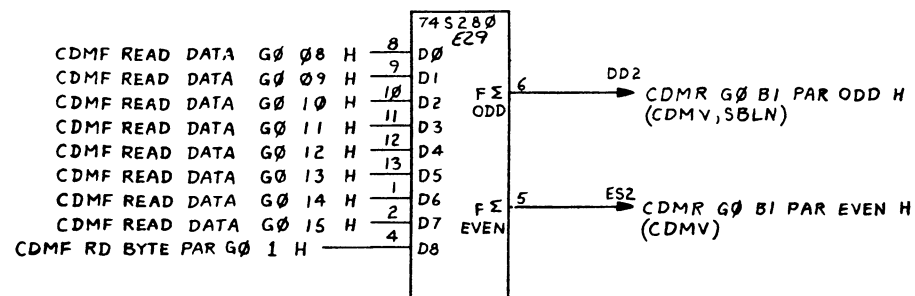
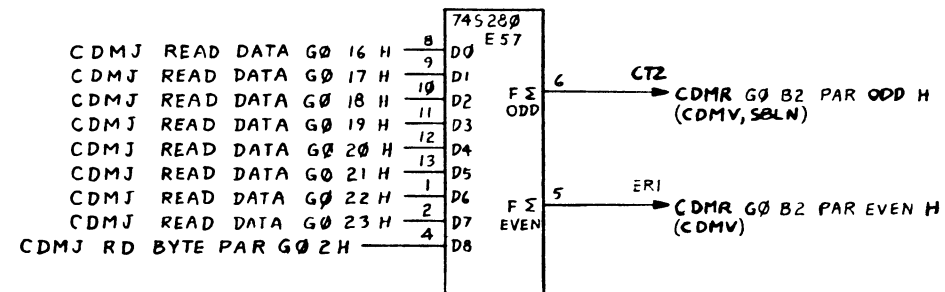
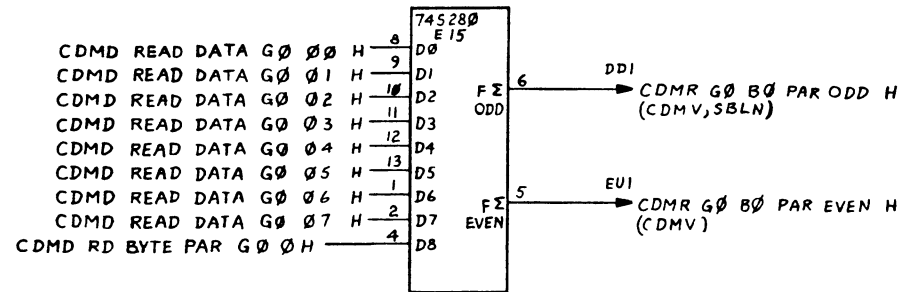
TITLE		SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMN)		D CS	M8221-0-1	8
SCALE	1:1	SHEET	13 OF 19	DIST.



(DATA MEMORY GROUP 1 BYTE 3)(SLOT 5)

REVISIONS		
CHK	CHANGE NO	REV

"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



74S280 FUNCTION TABLE		
NUMBER OF INPUTS A THRU 1 THAT ARE HIGH	OUTPUTS	
	Σ EVEN	Σ ODD
0, 2, 4, 6, 8	H	L
1, 3, 5, 7, 9	L	H

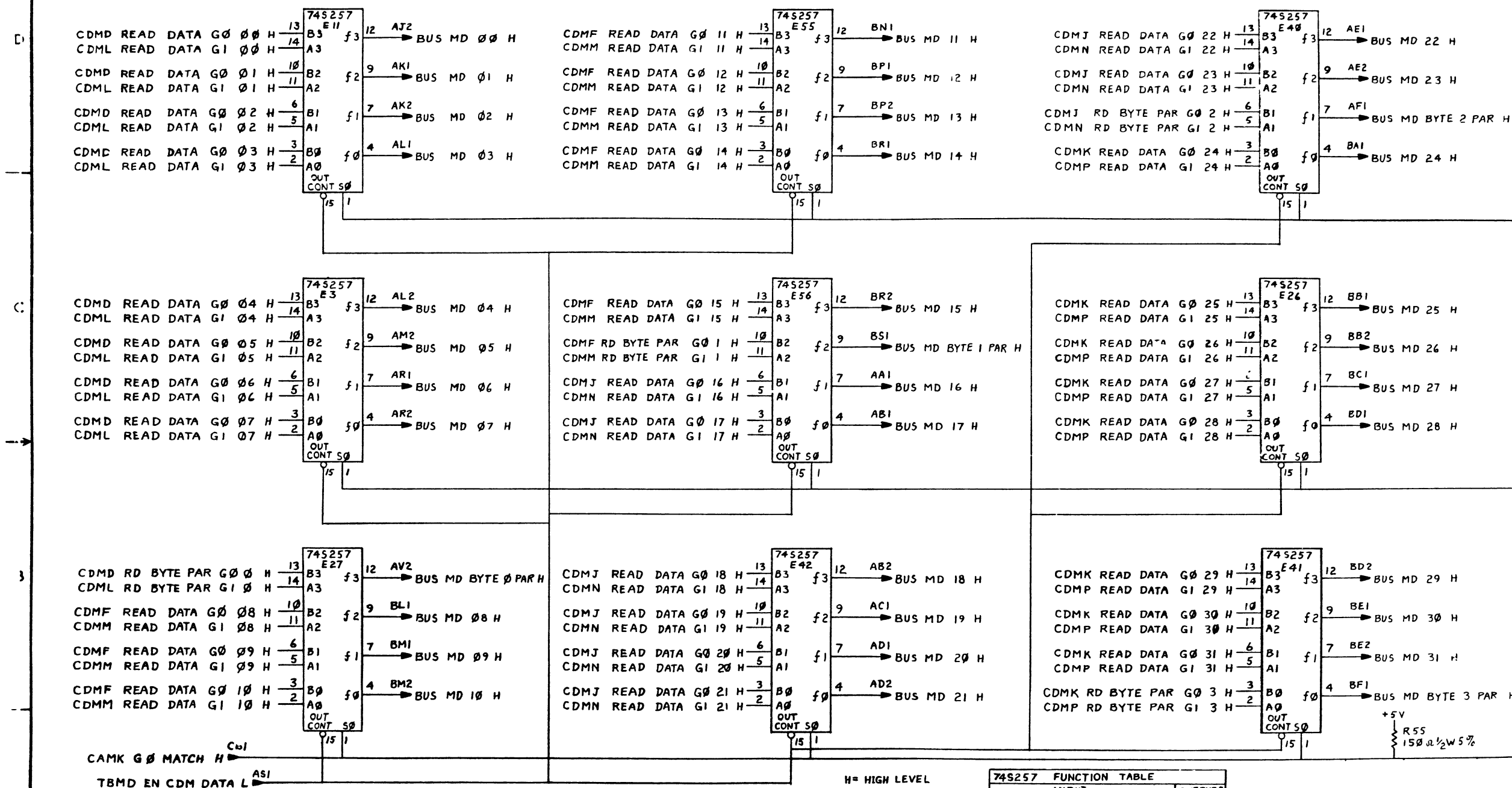
H = HIGH LEVEL, L = LOW LEVEL

REVISIONS		
CHK	CHANGE NO.	REV

(PARITY CHECKER GROUP 0) (SLOT 5)

TITLE		SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX (CDMR)		D	CSM8221-0-1	B
SCALE	SHEET	15 OF 19	DIST.	

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT ©1977 DIGITAL EQUIPMENT CORPORATION



- NOTES:
1. RESISTORS MUST BE AT OPPOSITE END OF RUN FROM INPUT PIN
 2. RESISTORS R56 & R58 ARE NOT USED

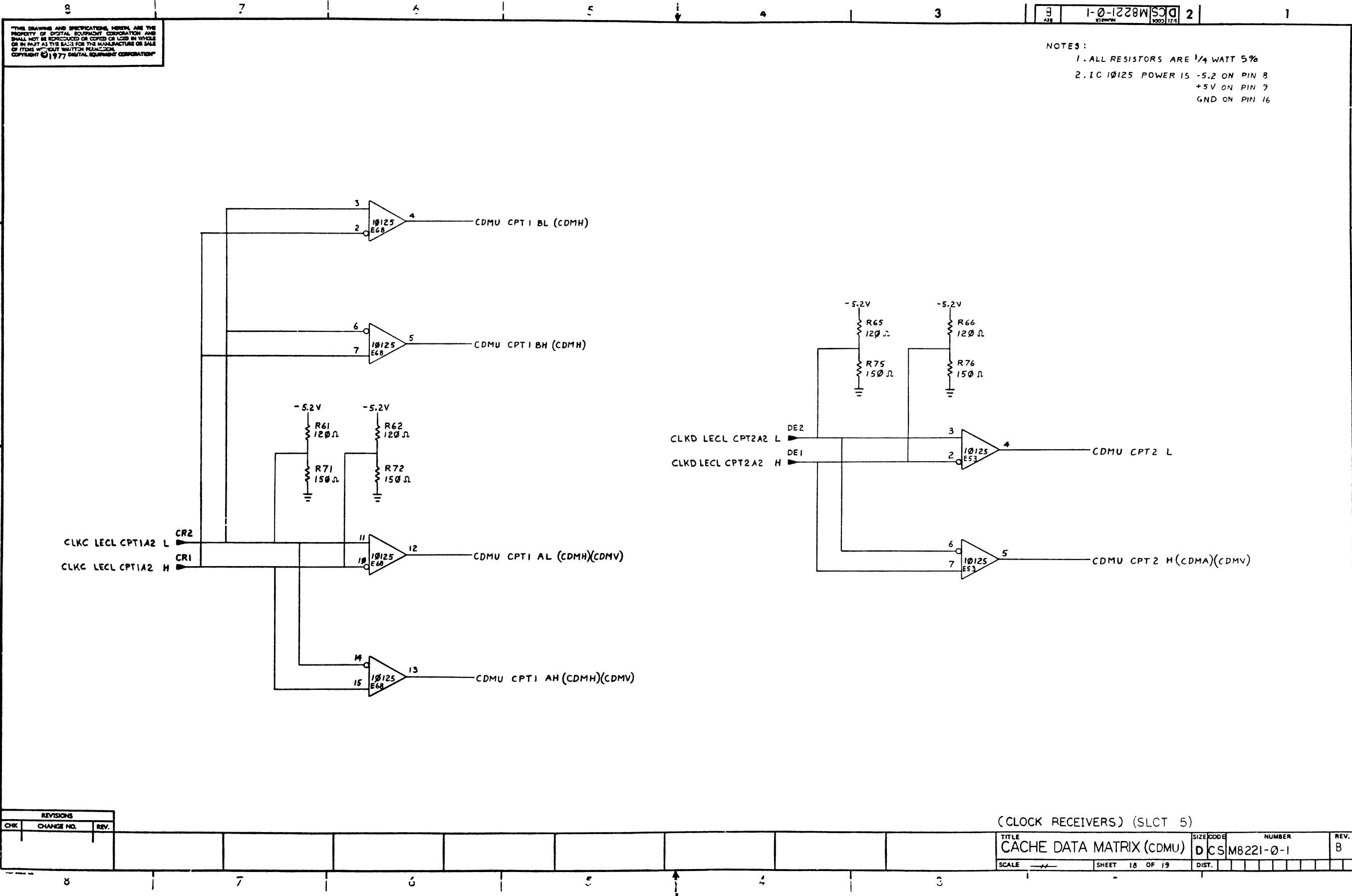
H= HIGH LEVEL
L= LOW LEVEL
X= IRRELEVANT
Z= HIGH IMPEDANCE(OFF)

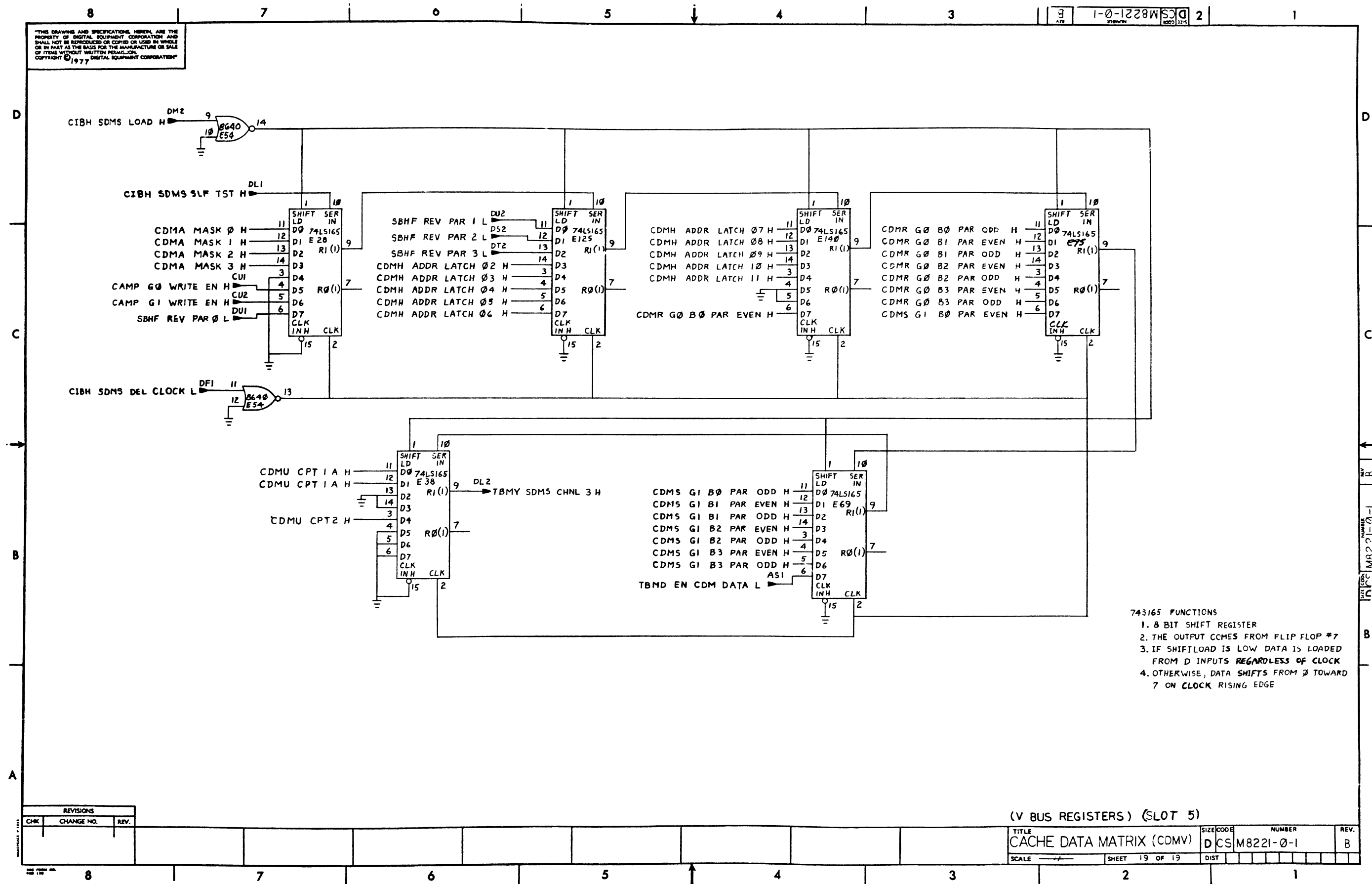
74S257 FUNCTION TABLE				
INPUT		OUTPUT		
OUTPUT CONT	SELECT	A	B	
H	X	X	X	Z
L	L	L	X	L
L	L	H	X	H
L	H	X	L	L
L	H	X	H	H

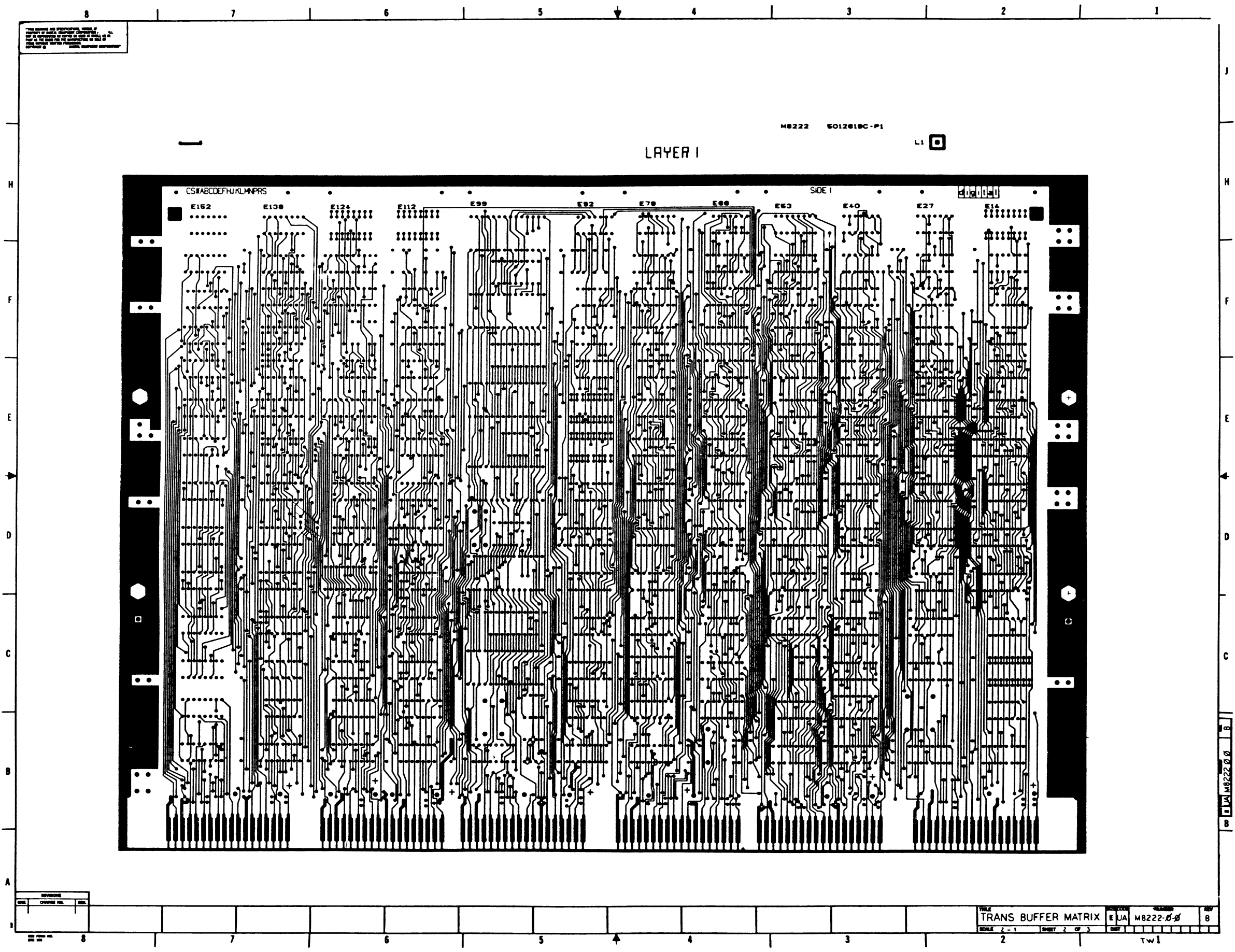
(CDM OUTPUT DATA MULTIPLEXER) (SLOT 5)

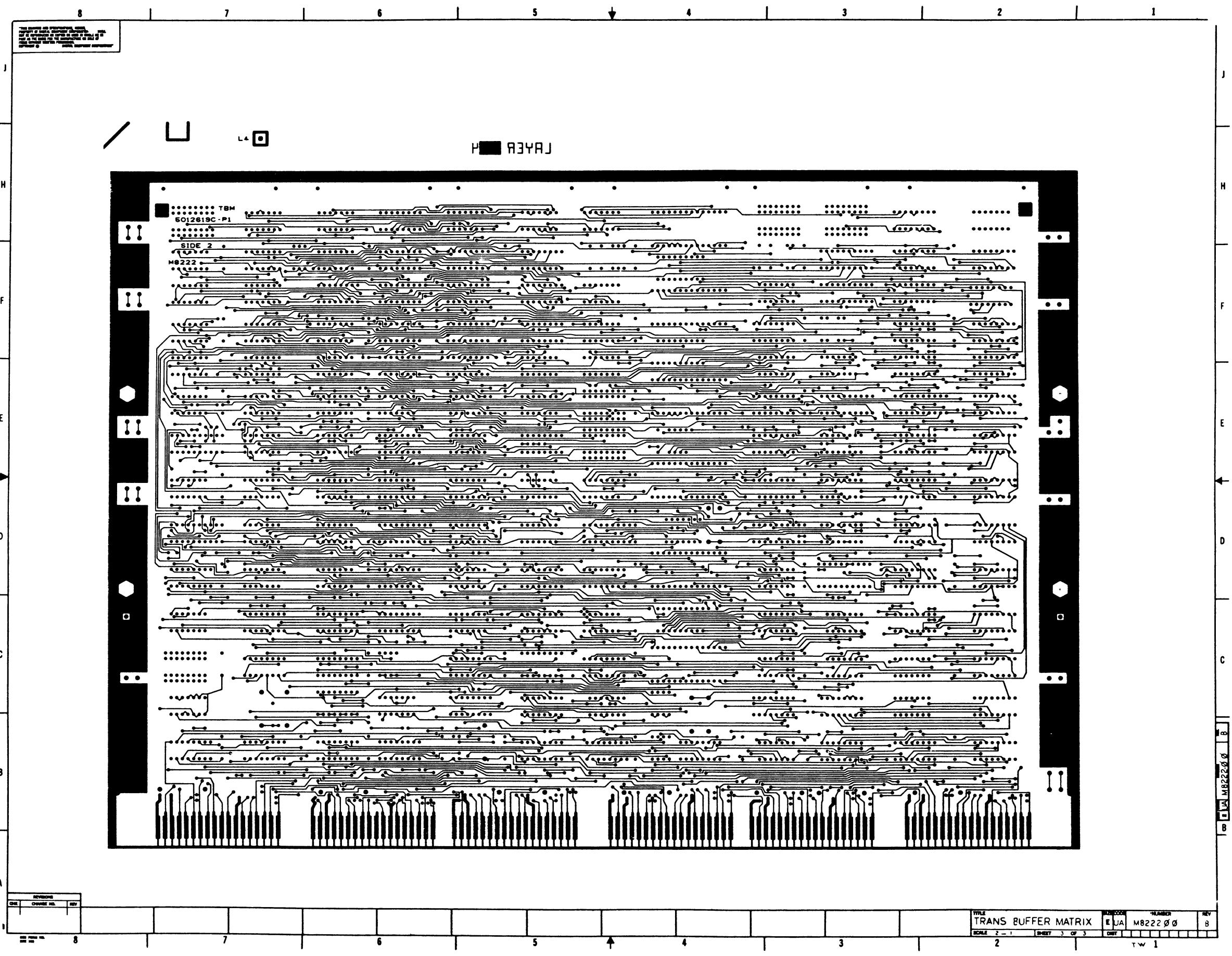
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
CACHE DATA MATRIX(CDMT)	D	CSM8221-0-1	B
SCALE	SHEET 17 OF 19	DIST.	









THIS DRAWING IS THE PROPERTY OF THE
U.S. GOVERNMENT AND IS TO BE
REPRODUCED IN WHOLE OR IN PART
WITHOUT LIMITATION OF ANY KIND
WHENEVER IT IS NECESSARY TO
REPRODUCE IT FOR THE PURPOSES OF
THE U.S. GOVERNMENT.

REVISIONS		
NO.	CHANGE NO.	REV.
1		

TITLE		DRAWN		CHECKED		REV.	
TRANS BUFFER MATRIX		EJA		M822200		8	
SCALE 2-1		SHEET 3 OF 3		DATE		T.W. 1	

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
				00		
1	1	D-MD-5012619-0-0	5012619-00	M8222	1	
2	2		1012784-00	.047 MFD 50V +80-20% CER	46	C1-C45, C200
3	3		1012084-01	8 MFD 25V +75-10% AL EL	7	C46-C52
4	4		1301781-00	82.0 .50 W 5.0 % CC	2	R19, R21
5	5		1300243-00	120.0 .50 W 5.0 % CC	3	R23-R25
6	6		1300247-00	120.0 .25 W 5.0 % CC	8	R1-R8
7	7		1301775-00	820.0 .25 W 5.0 % CC	60	R37-R96
8	8		1300295-00	330.0 .25 W 5.0 % CC	7	R17, R31-R36
9	9		1300250-00	150.0 .25 W 5.0 % CC	8	R9-R16
10	10		1301424-00	680.0 .25 W 5.0 % CC	1	R18
11	11		1301972-00	270.0 .25 W 5.0 % CC	3	R26, R27, R28
12	12		1910532-00	74500 NAND GATE-QUAD 2IN	6	E9, E10, E13, E24, E48, E75
13	13		1912388-00	74502 NOR GATE-QUAD 2IN, PO	6	E11, E27, E19, E31, E83, E91
14	14		1910534-00	74504 INVERTER GATE-HEX 1I	14	E4, E7, E20, E25, E35, E46, E56, E66, E89, E90, E100, E115, E116, E127
						CONT
15	15		1912389-00	74508 AND GATE-QUAD 2IN, PO	6	E22, E23, E39, E59, E21, E72
16	16		1910536-00	74510 NAND GATE-TRIPLE 3IN	4	E12, E26, E34, E18
17	17		1910537-00	74511 AND GATE-TRIPLE 3INP	1	E36
18	18		1910539-00	74520 NAND GATE-DUAL 4INPU	2	E71, E126
19	19		1912746-00	DEC 74537 NAND GATE-QUAD 2IN	3	E42, E57, E60
20	20		1911712-00	74551 AND-OR GATE-INVERT D	1	E58
21	21		1910542-00	74564 A-O-I GATE 4-2-3-2	9	E2, E32, E33, E37, E40, E79, E102, E103, E104
						CONT
22	22		1910544-00	74574 FF-D DUAL, EDGE TRIGG	1	E74
23	23		1910545-00	745112 FF-JK DUAL, EDGE TRIG	2	E50, E61
24	24		1911983-00	745133 NAND GATE-POSITIVE 1	3	E5, E62, E114
25	25		1911675-00	745138 DECODER/DEMUX 3-8 LIN	1	E84
26	26		1910548-00	745157 MUX 1 OF 2 (QUAD)	5	E44, E49, E51, E52, E77
27	27		1910549-00	745158 MUX 1 OF 2 (QUAD)	1	E108
28	28		1910957-00	745175 FF-D QUAD COMMON CLO	2	E17, E69

REVISION HISTORY		BASIC PART NO: M8222		DRN: F. SMART		DATE: 4-10-78		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: F. SMART		DATE: 4-10-78		TITLE PARTS LIST	
---	INIT	B	SECTION VARIATION INDEX	DES.ENG: I. RAGWAR		DATE: 4-10-78		TBM	
JB	M8222-TW003	C	[A] 00	RESP.ENG.: I. RAGWAR		DATE: 4-10-78		DOCUMENT NUMBER	
			[B]	MFG.ENG.: M. TERELLA		DATE: 4-10-78		SIZE CODE NUMBER REV	
			[C]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME: EDIT #	
			[D]	E-UA-M8222-0-0		M8222		Z2305.PLS 10	
			[E]						
			[F]						
			[G]						
			[H]						
			[I]						
			[J]						
			[K]						
			[L]						
			[M]						
			[N]						

"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT (C) 1981. DIGITAL EQUIPMENT CORPORATION"

AUTOMATED BY PRTLST.1D(10)

PARTS LIST

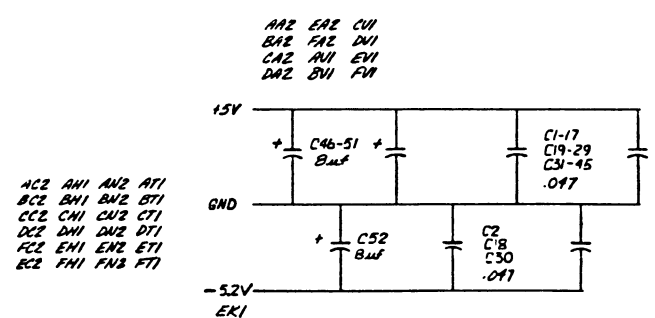
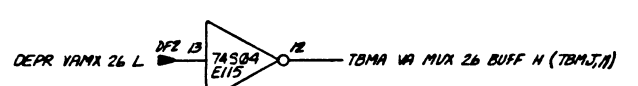
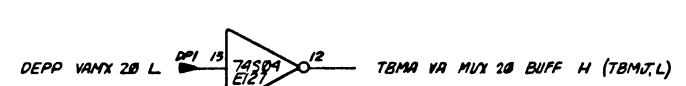
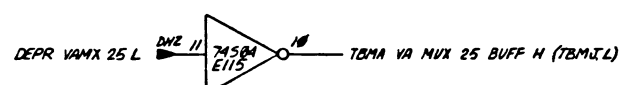
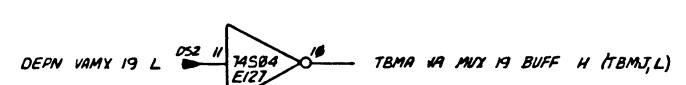
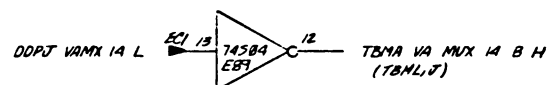
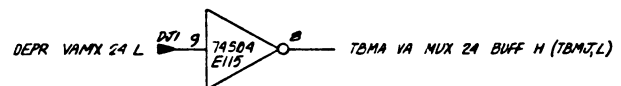
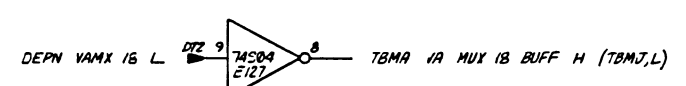
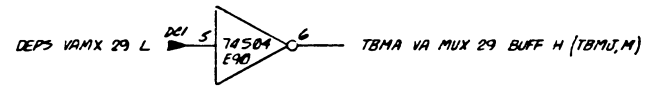
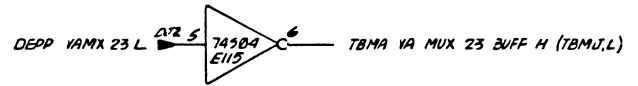
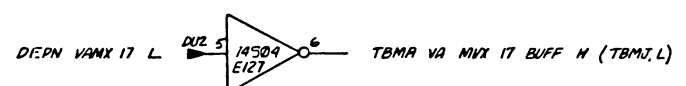
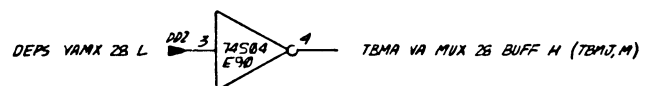
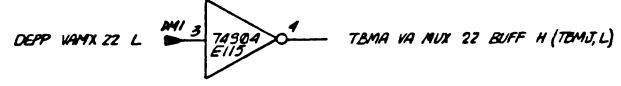
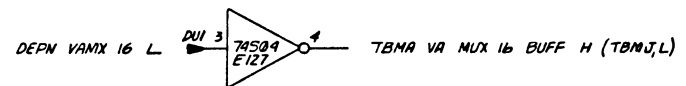
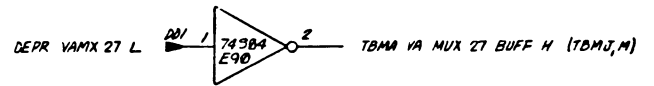
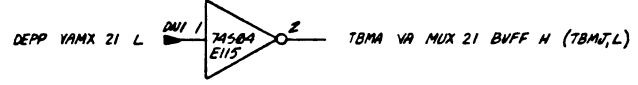
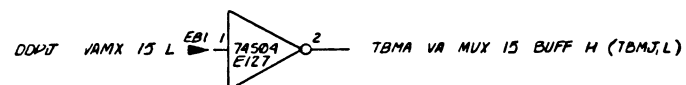
SHEET A2 OF A2

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
					00		
29	29		1910552-00	74S194 SHIFT REG.,4BIT RIGH	14		E30,E38,E43,E47,E65,E68,E76,E73,
30	30		1913462-00	74S240 OCTAL BUFFER,INVERTI	6	CONT	E110,E119,E131,E136,E144,E150
31	31		1912660-00	74S253 MUX 1 OF 4 (DUAL)	9		E85,E105,E120,E122,E123,E133
32	32		1911641-00	SN 74S257 MUX,QUAD 2 TO 1	2	CONT	E128,E129,E132,E134,E135,E141,
33	33		1911573-00	74S280 PARITY GEN/CHKR,9BIT	6		E142,E147,E148
34	34		1913670-00	74S373 LATCH 8BIT TRASP TR	3		E139,E140
35	35		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	1		E86,E92,E106,E109,E111,E121
36	36		1913788-00	26S10 TRANSCEIVER,BUS,QUA	6		E6,E8,E45
37	37		1913663-00	93419DC RAM 64X9 28PIN TT	6		E81
38	38		1913294-00	93S16 COUNTER,SYNCH UP BIN	2		E1,E15,E41,E54,E67,E93
39	39		1911415-00	10125 ECL TO TTL TRNSLTR	3		E94-E99
40	40		1910547-00	74S153 MUX 1 OF 4 (DUAL)	11		E113,E125
41	41		1913839-00	74LS165 SHIFT REG.,8BIT	4	CONT	E28,E80,E82
42	42		1912696-00	LS194A SHIFT REG.,4BIT BI-D	4		E107,E117,E118,E130,E137,E138,
43	43		1912860-00	LS259 LATCH 8BIT	1		E143,E145,E149,E151,E146
44	44		1210711-02	/REPLACED BY 12-16988-02	1		E16,E29,E55,E101
45	45		9000024-01	EYELET,ROLL FLANGE .12100X .192	12		E53,E63,E64,E70
							E73

46 NOTE: IC SPARES E3,E14,E87,E88,E112,E124,E152

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	R"V
							TBM		K	PL	M8222-0-0	C

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

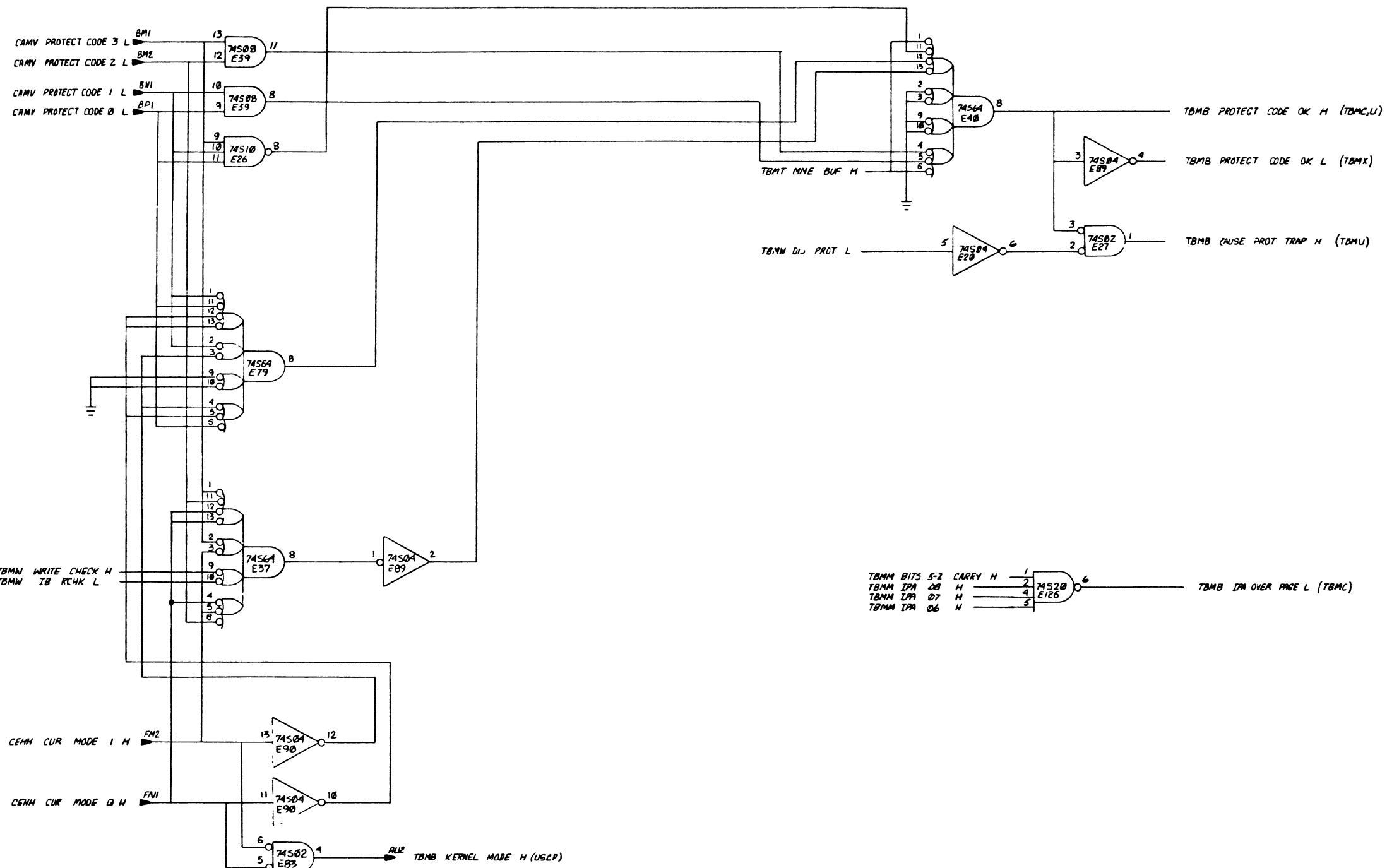


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		TRANSLATION BUFFER MATRIX (TBMA)	SIZE	CODE	NUMBER	REV.
SCALE		SHEET 2 OF 22	D	CS	M8222-0-1	C

(VA MUX DRIVERS)
(SLOT 6)

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

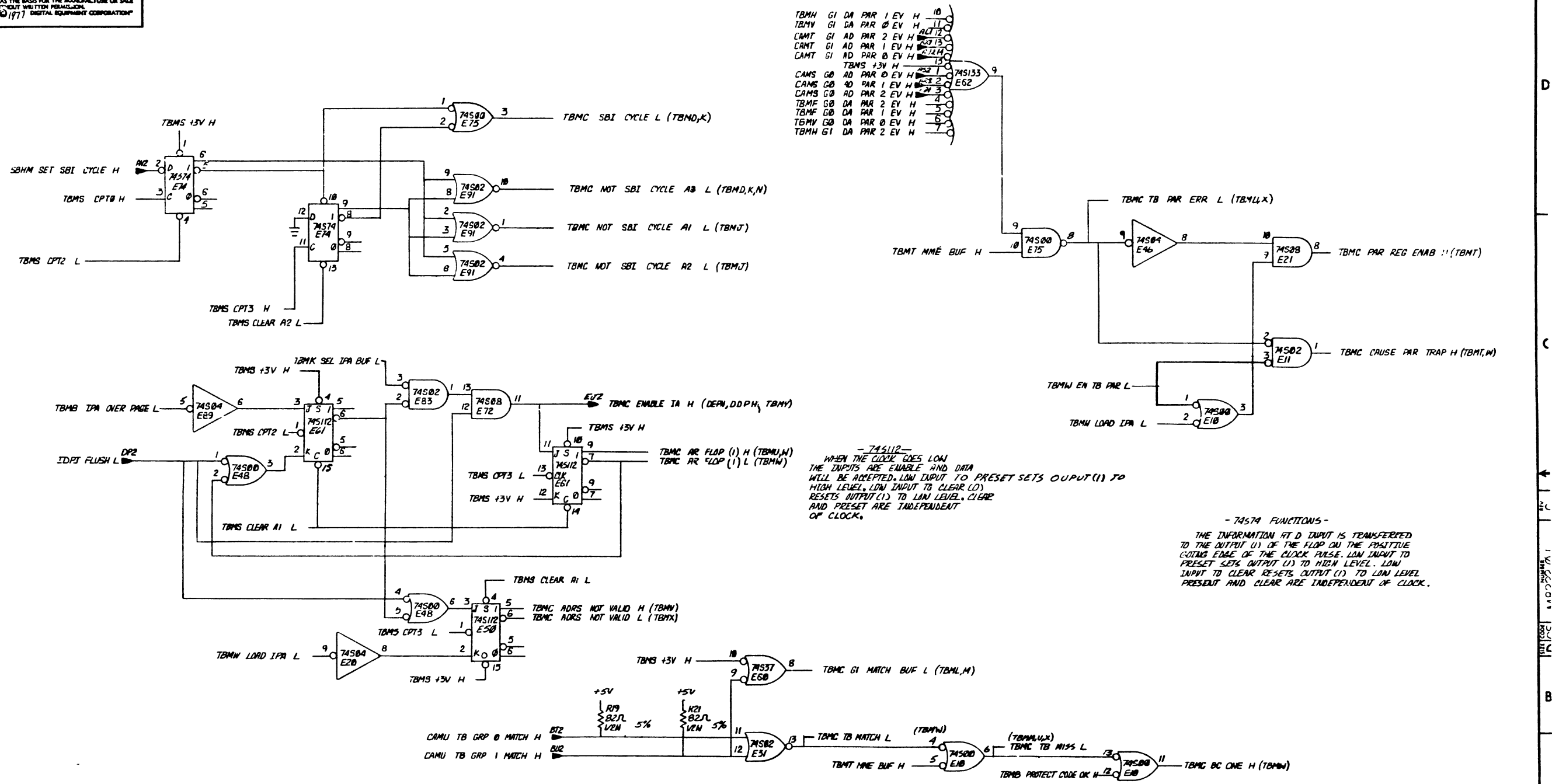


TBMV BITS 5-2 CARRY H 1
TBMV IPN 28 H 2
TBMV IPN 07 H 4
TBMV IPN 06 H 5
74S20 E125
TBMV IPN OVER PAGE L (TBMU)

REVISIONS		
CHK	CHANGE NO.	REV

TITLE		(PROTECTION CODE LOGIC)		(SLOT 6)	
TRANSLATION		BUFFER MATRIX (TBMU)		NUMBER	
SCALE		SHEET 3 OF 22		REV. C	
DIST.		T W		1	

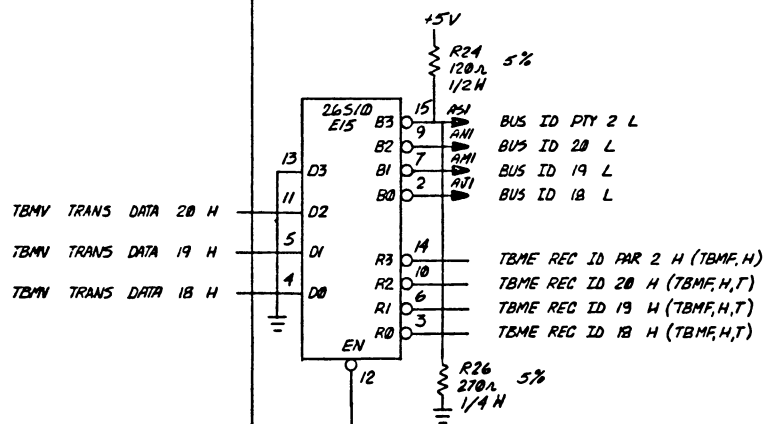
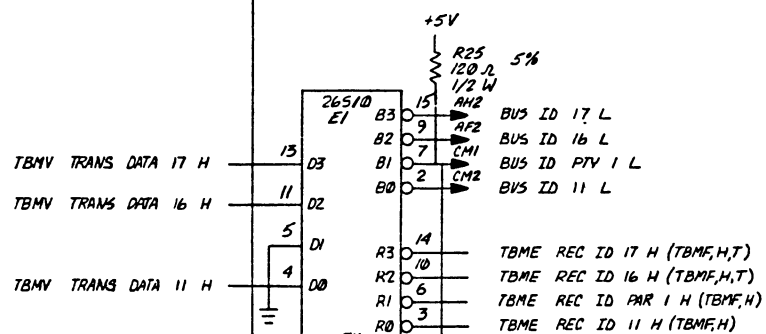
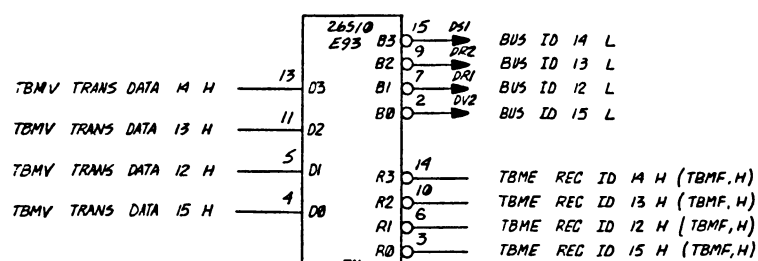
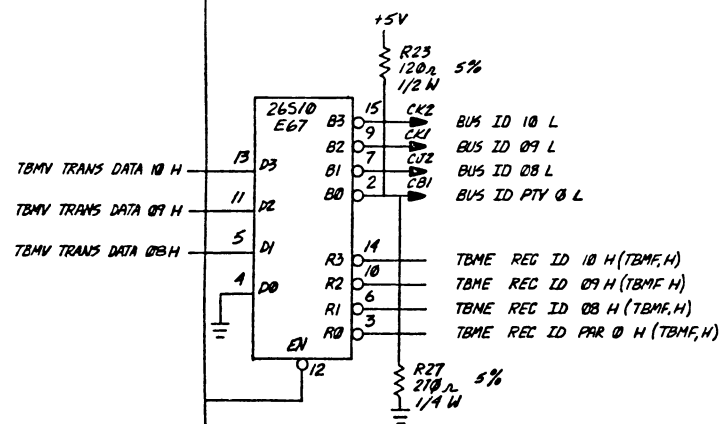
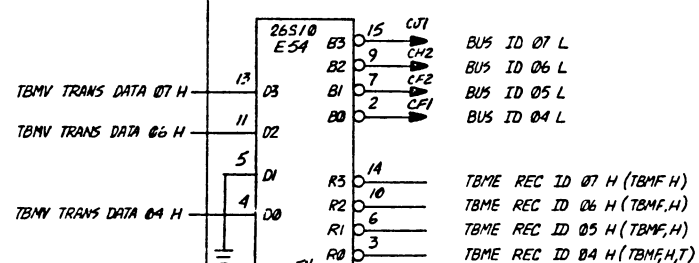
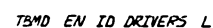
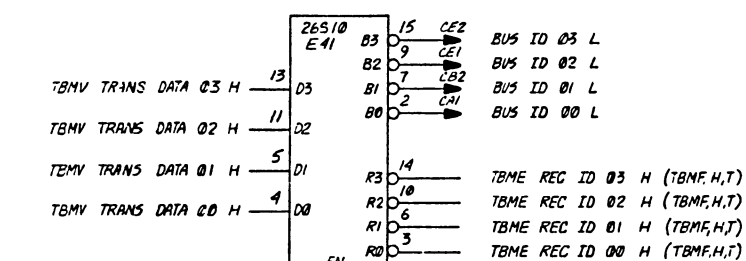
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



INPUTS					OUTPUTS							
ENABLE		SELECT										
G1	G2*	C	B	A	D0	D1	D2	D3	D4	D5	D6	D7
X	H	X	X	X	H	H	H	H	H	H	H	H
L	X	X	X	X	H	H	H	H	H	H	H	H
H	L	L	L	L	L	H	H	H	H	H	H	H
H	L	L	L	H	H	L	H	H	H	H	H	H
H	L	L	H	L	H	L	H	H	H	H	H	H
H	L	L	H	H	H	H	L	H	H	H	H	H
H	L	H	L	L	H	H	H	L	H	H	H	H
H	L	H	L	H	H	H	H	L	H	H	H	H
H	L	H	H	L	H	H	H	H	H	L	H	H
H	L	H	H	H	H	H	H	H	H	H	H	L

H = HIGH LEVEL L = LOW LEVEL X = IRRELEVANT
G2 = (INPUT PIN 4) + (INPUT PIN 5)
G1 = INPUT PIN 6

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF IT, WITHOUT WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION.



26510

INPUTS		OUTPUTS	
E	I	B	Z
L	L	H	L
L	H	L	H
H	X	Y	Y

H = HIGH VOLTAGE LEVEL
L = LOW VOLTAGE LEVEL
X = DON'T CARE
Y = VOLTAGE LEVEL OF BUS
(ASSUMES CONTROL BY
ANOTHER BUS TRANSCEIVER)

NOTE: 26510 HAS +5V ON PIN 16
GND ON PINS 1 AND 8

REVISIONS		
CHK	CHANGE NO.	REV

(ID TRANSCEIVER)

(SLOT 6)

TITLE	TRANSLATION BUFFER MATRIX (TBME)
-------	-------------------------------------

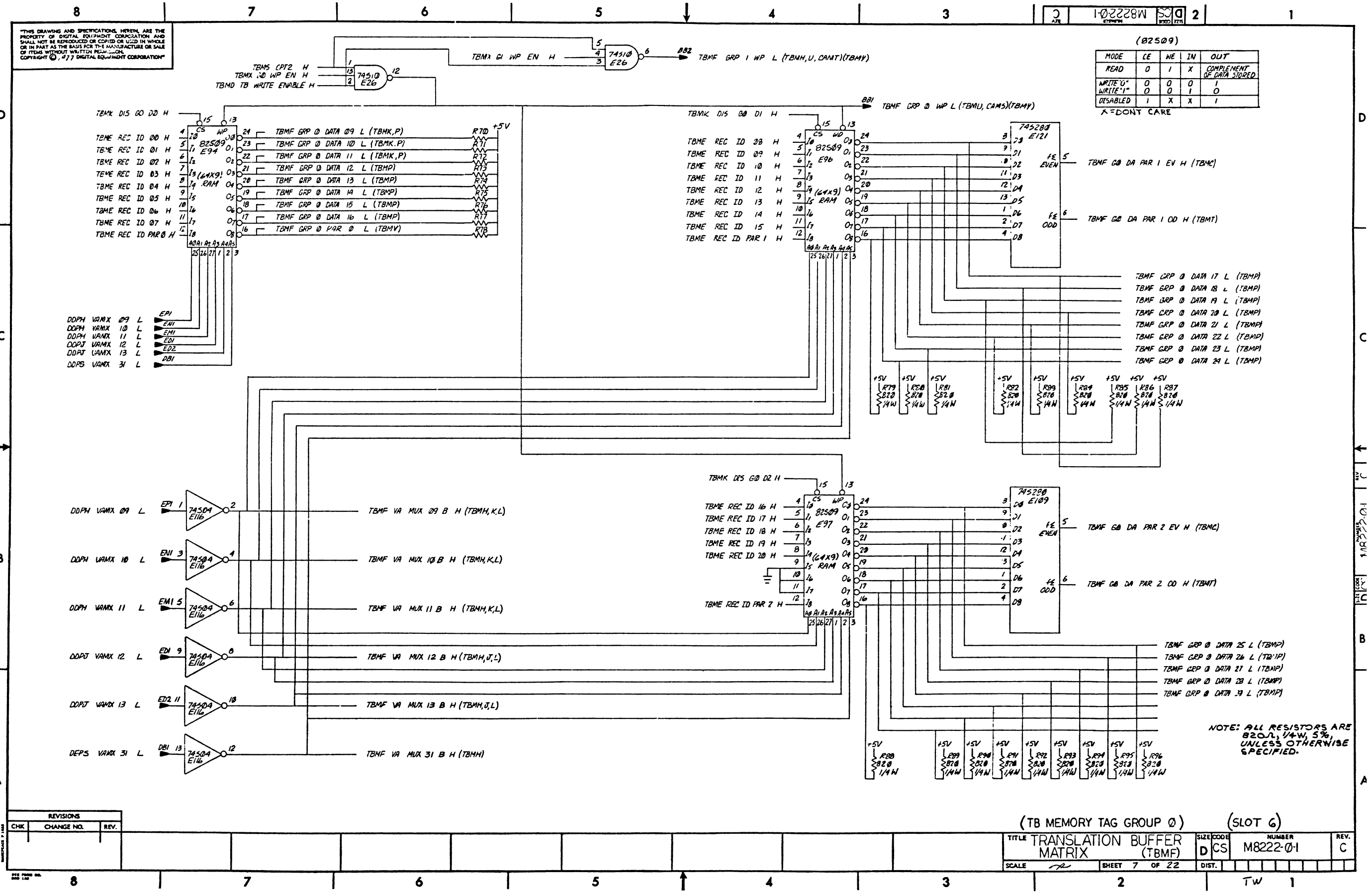
SIZE	CODE
D	CS

NUMBER
M8222-0-1

REV.	C
------	---

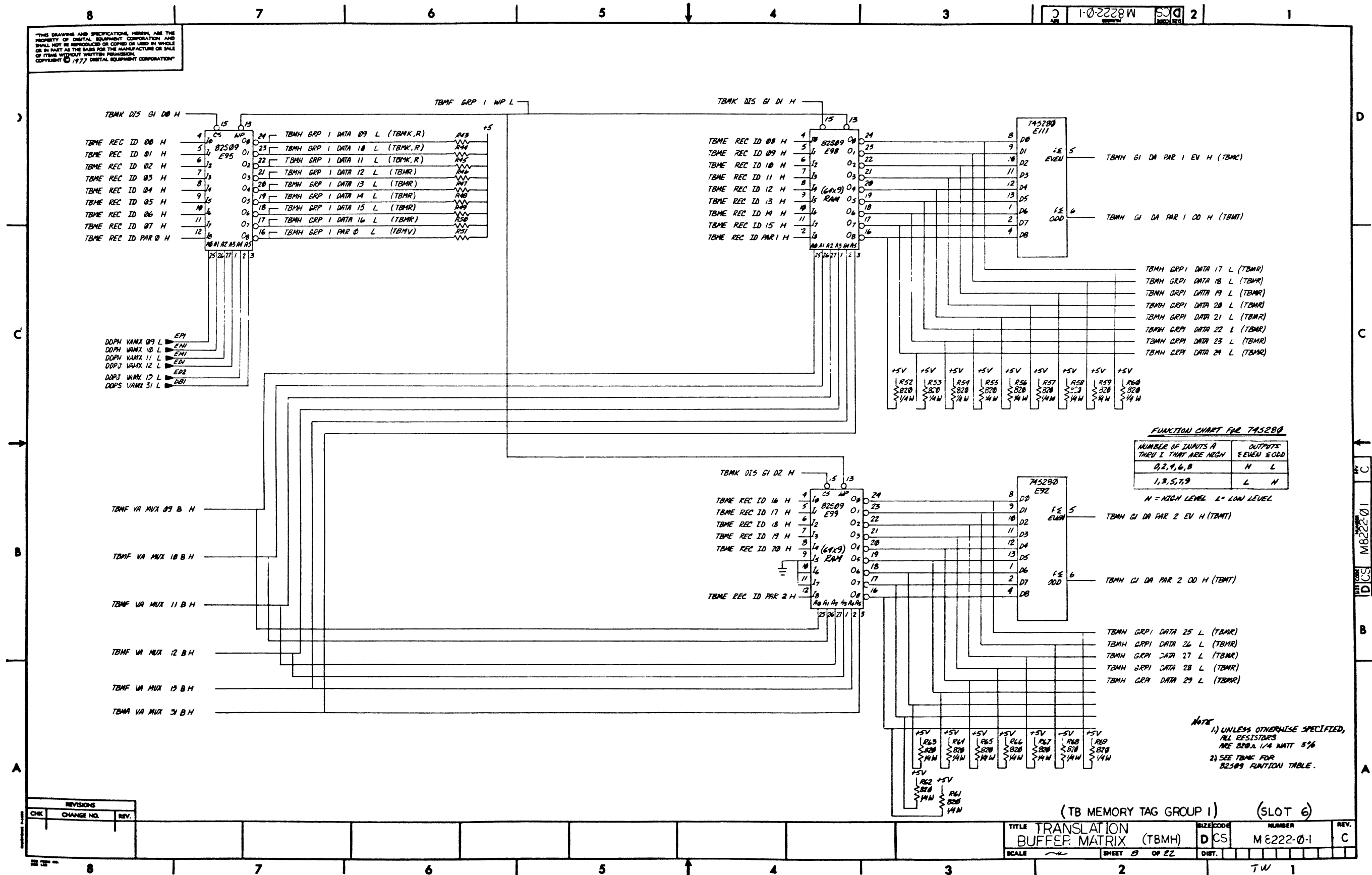
SCALE	<i>H</i>	SHEET	6	OF	22
-------	----------	-------	---	----	----

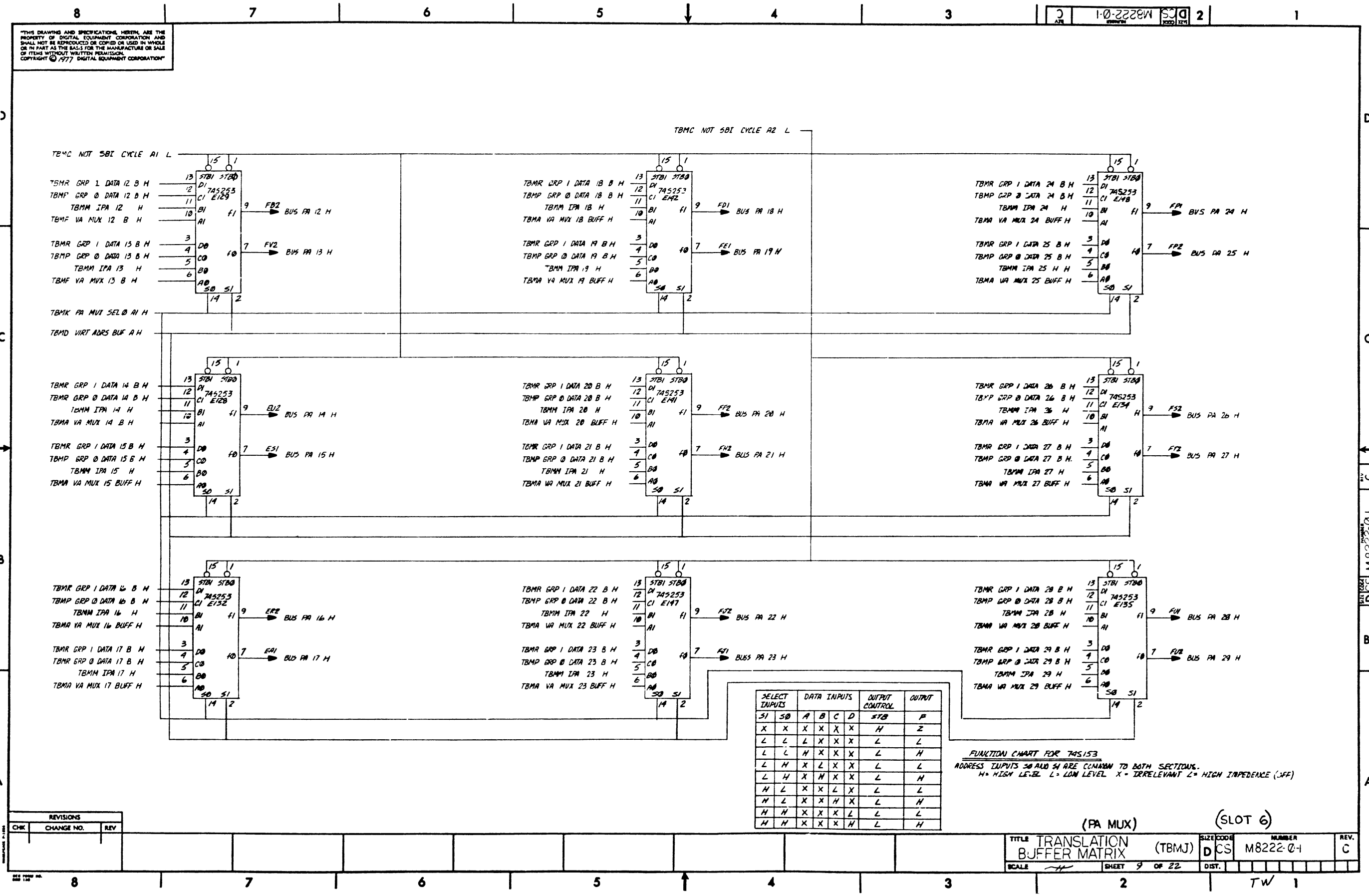
TW

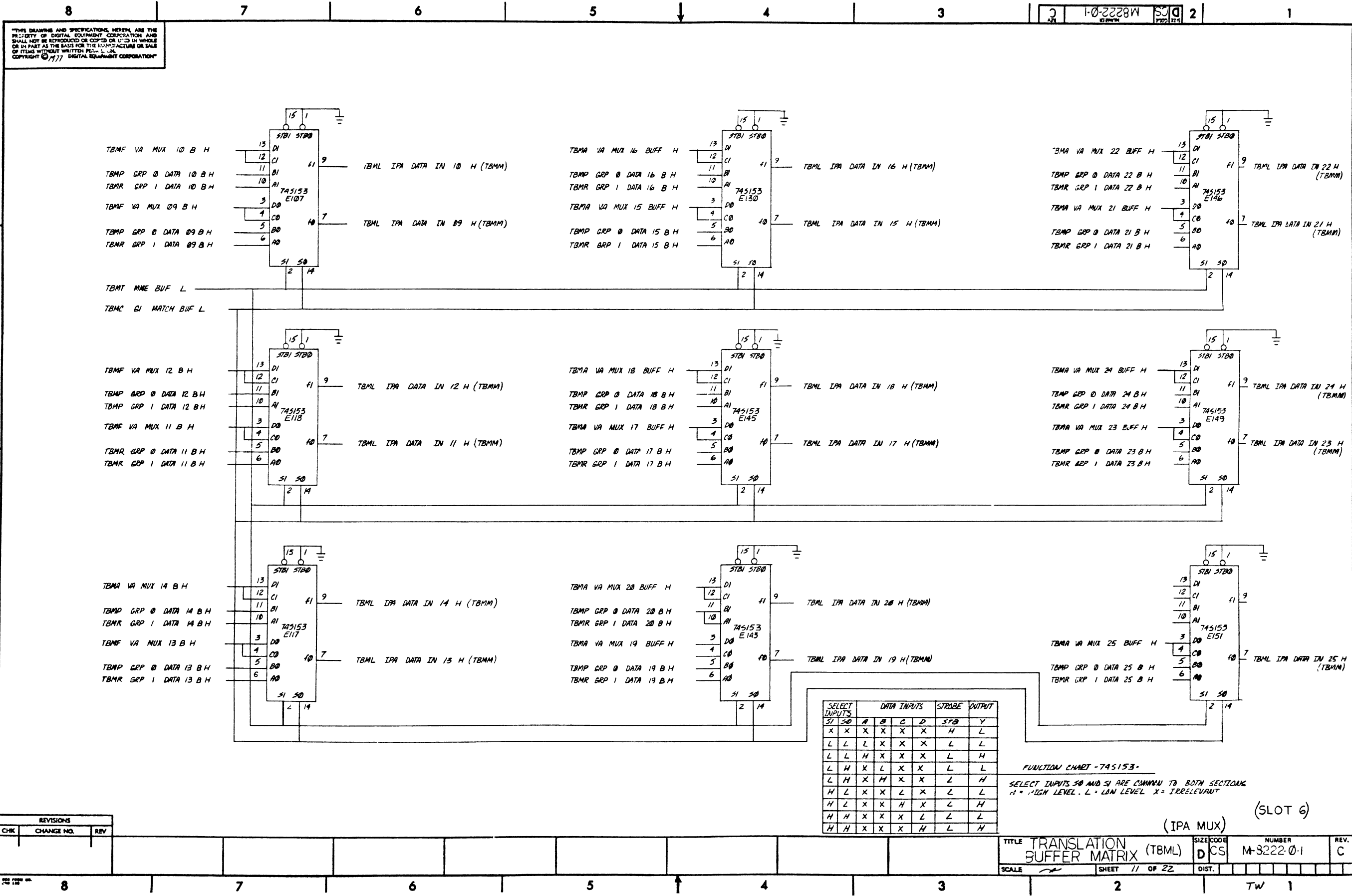


REVISIONS		
CHK	CHANGE NO.	REV.

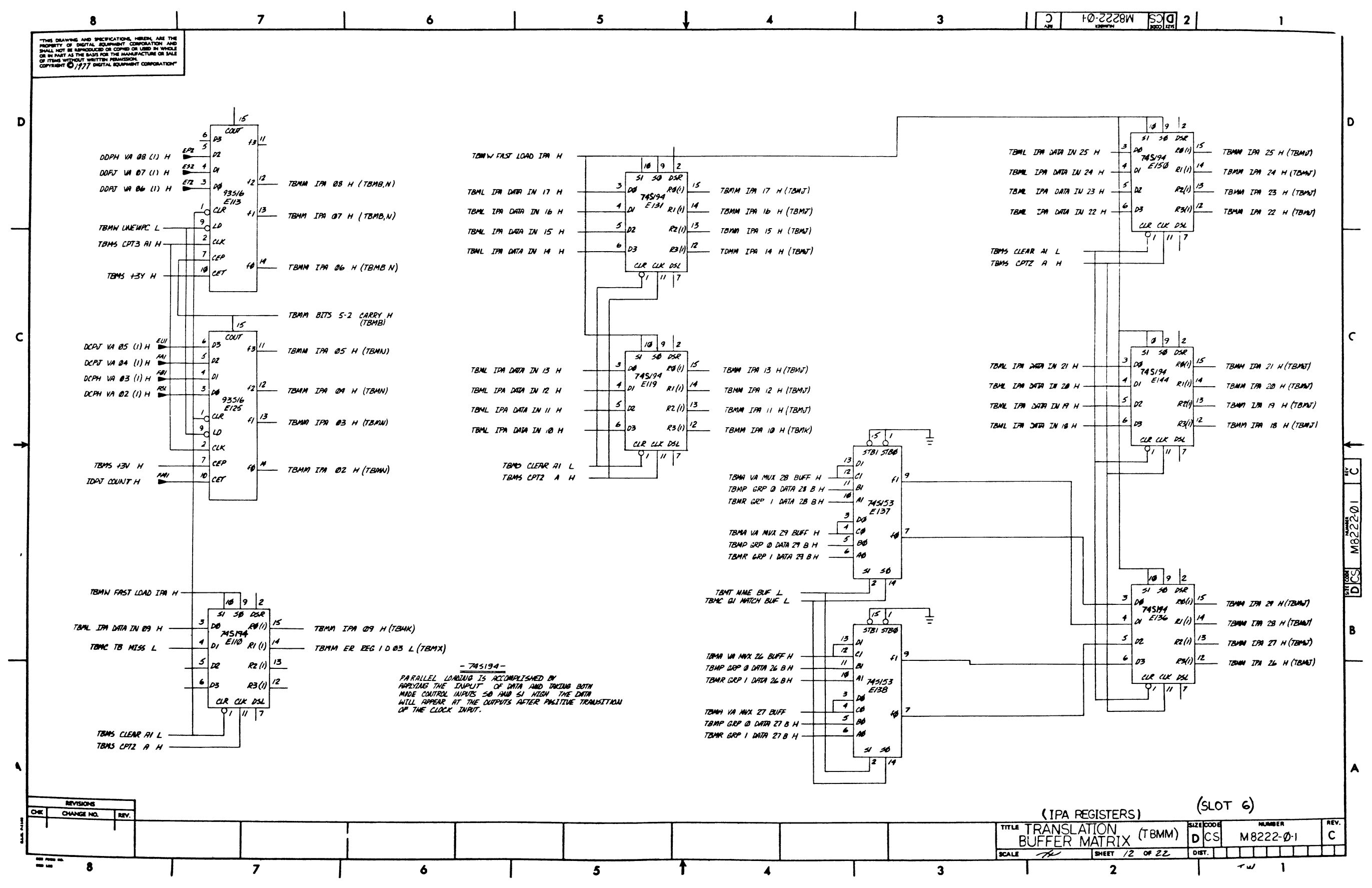
(TB MEMORY TAG GROUP 0)			(SLOT 6)		
TITLE TRANSLATION BUFFER MATRIX			SIZE CODE D CS	NUMBER M8222-0-1	REV. C
SCALE 1/2	SHEET 7	OF 22	DIST.		







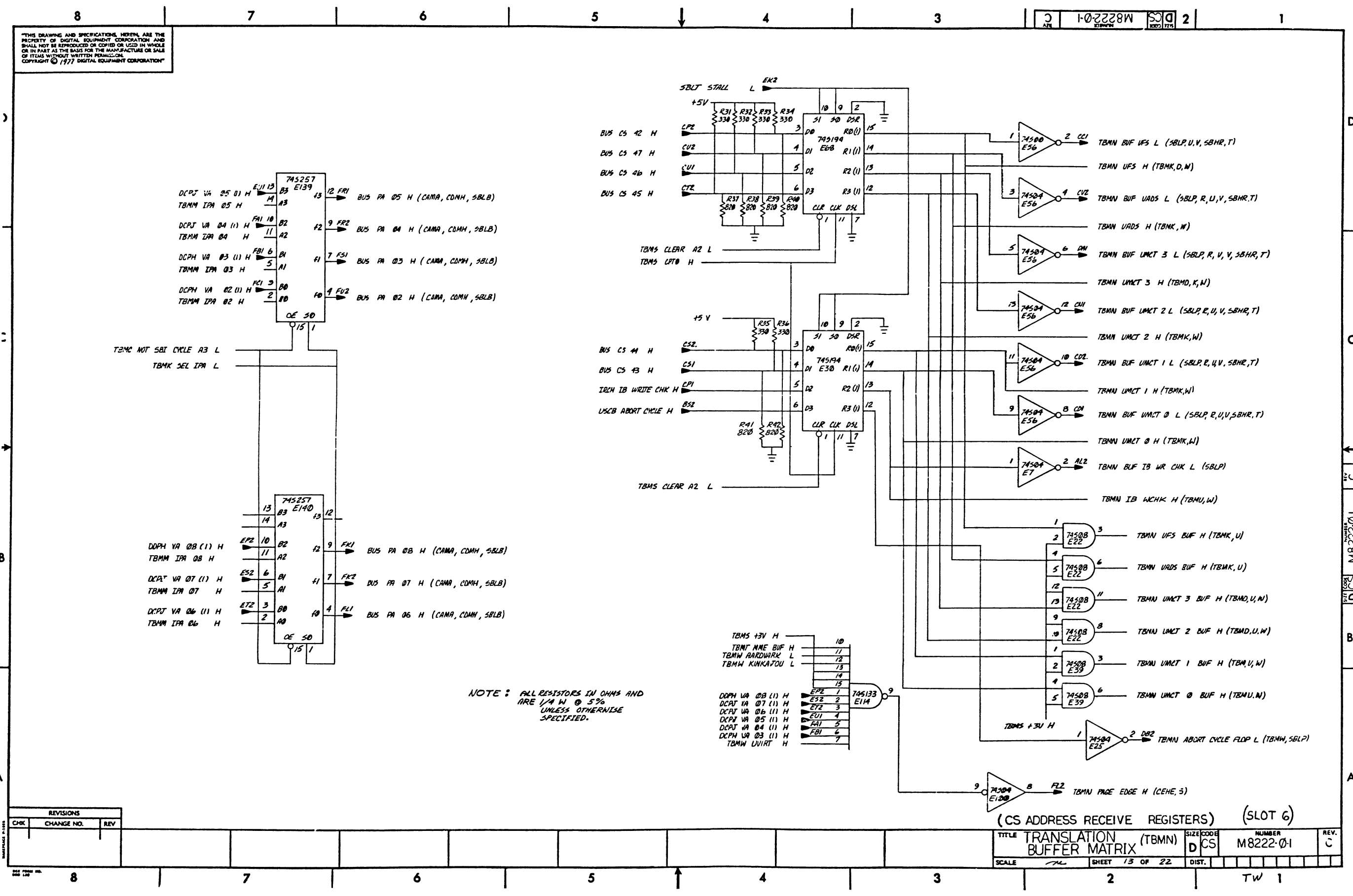
"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

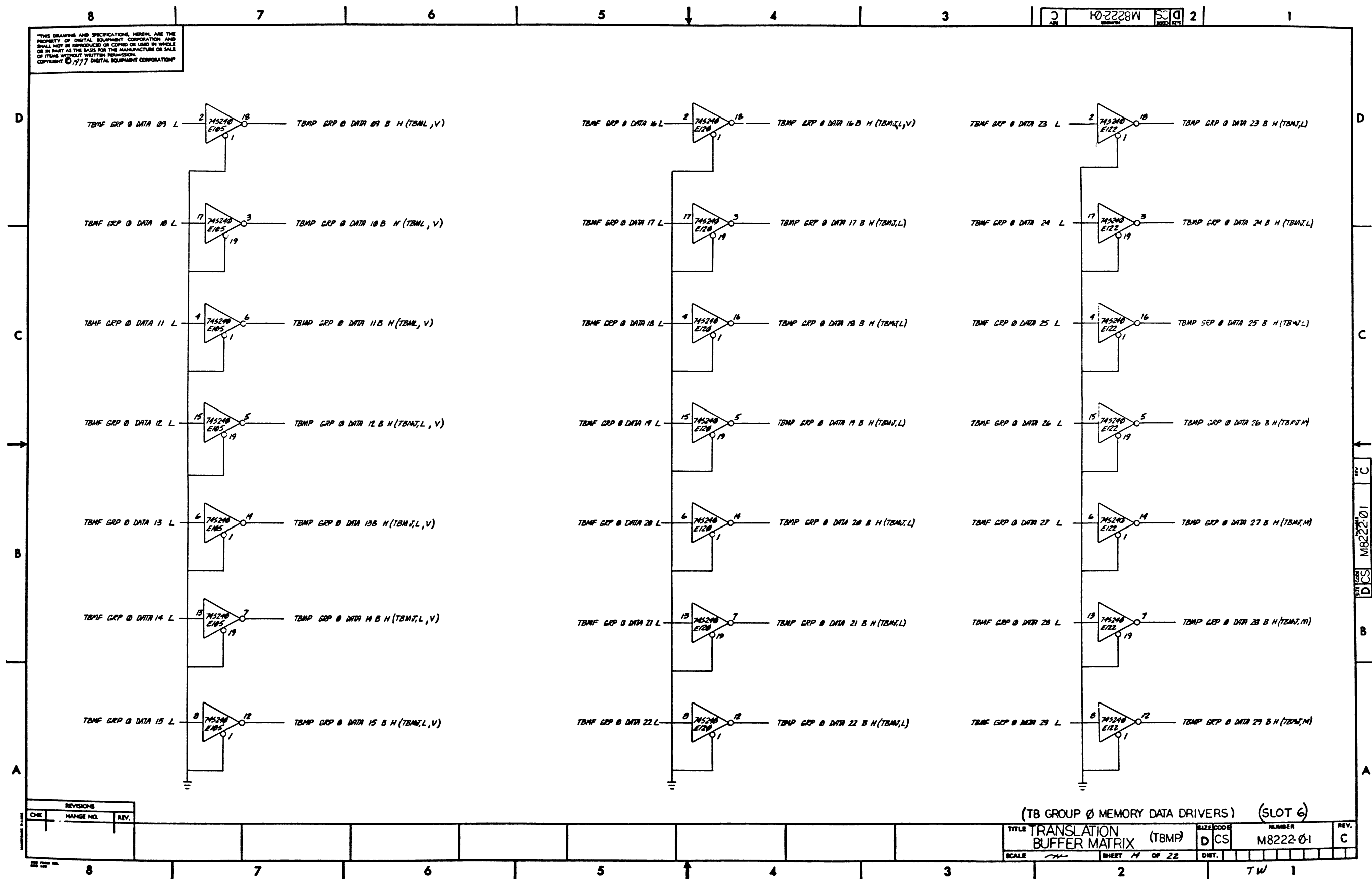


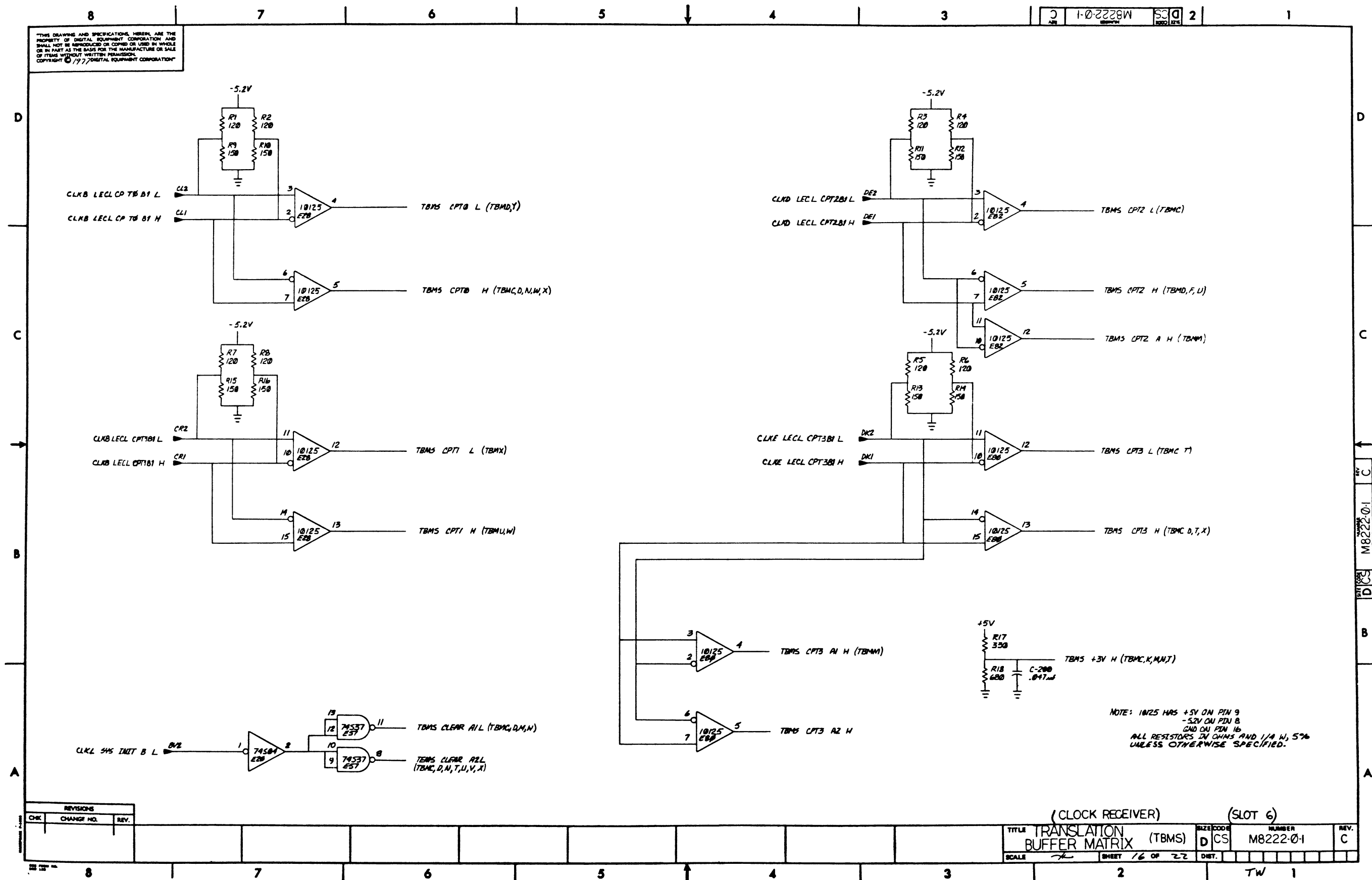
- 74S194 -
PARALLEL LOADING IS ACCOMPLISHED BY
APPLYING THE INPUT OF DATA AND TAKING BOTH
MADE CONTROL INPUTS S0 AND S1 HIGH. THE DATA
WILL APPEAR AT THE OUTPUTS AFTER POSITIVE TRANSITION
OF THE CLOCK INPUT.

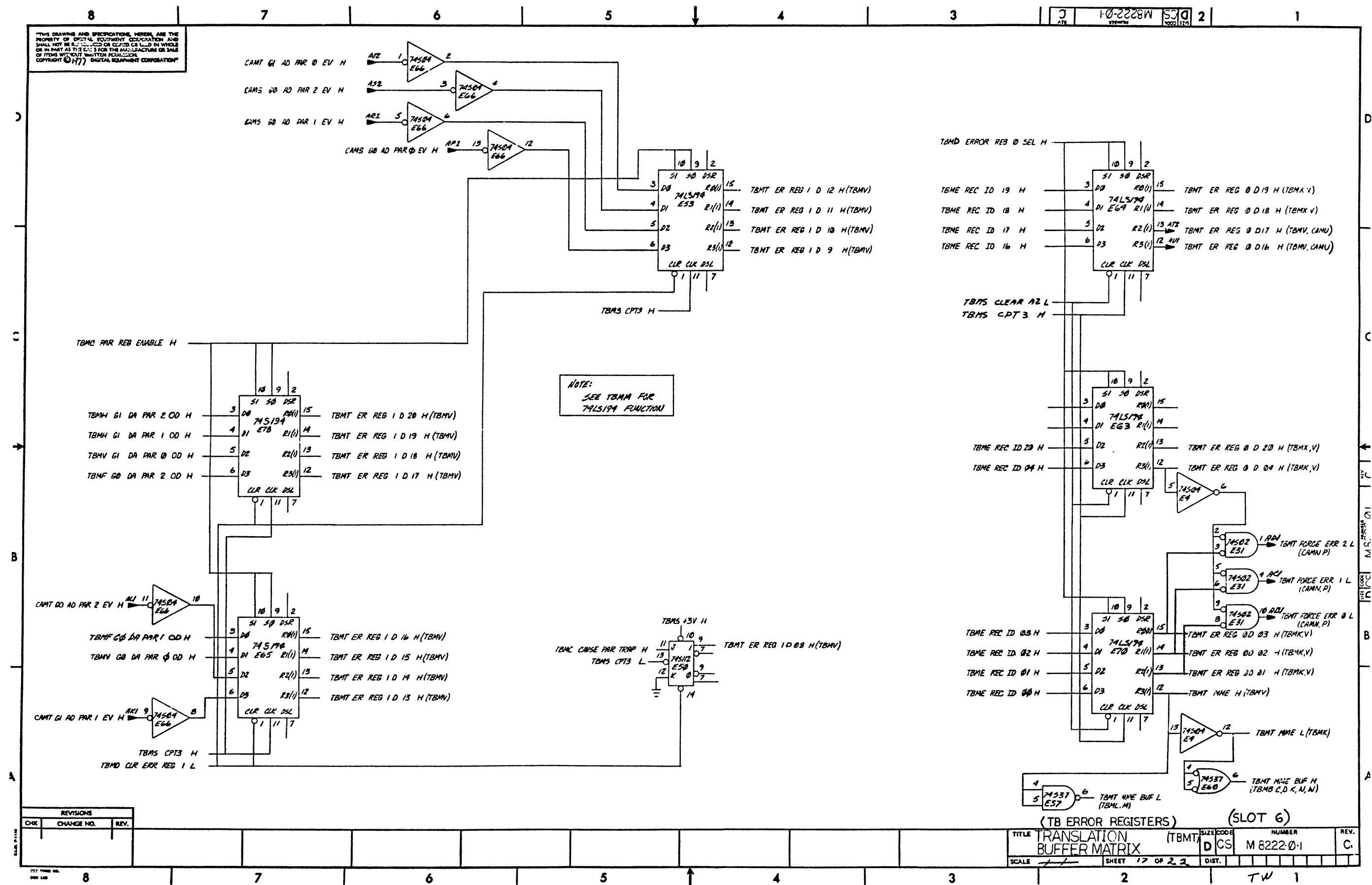
REVISIONS		
CHK	CHANGE NO.	REV.

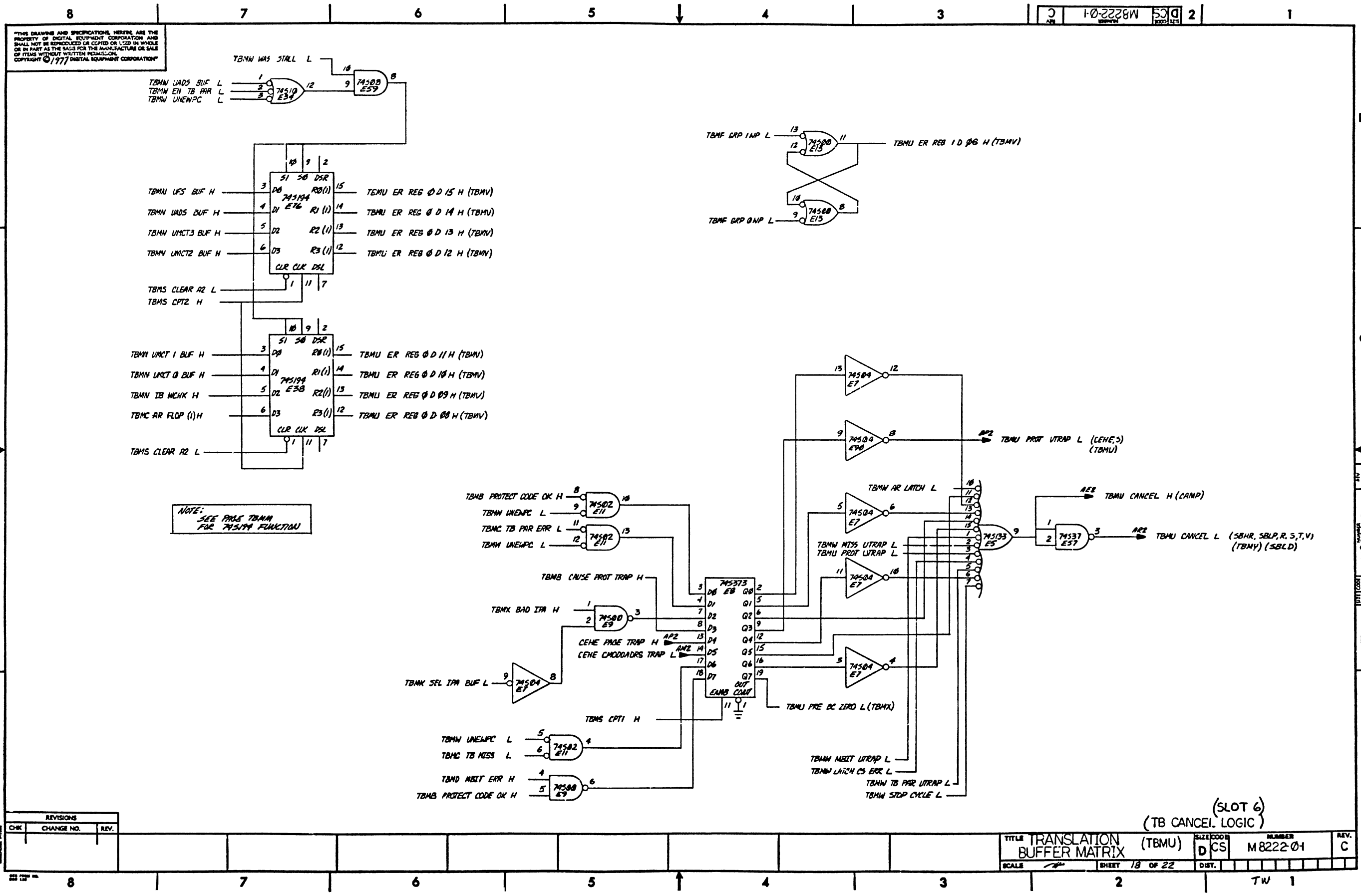
TITLE		SIZE	CODE	NUMBER	REV.
(IPA REGISTERS) (SLOT 6)					
TRANSLATION BUFFER MATRIX (TBMM)					
SCALE					
SHEET 12 OF 22					
DIST.					





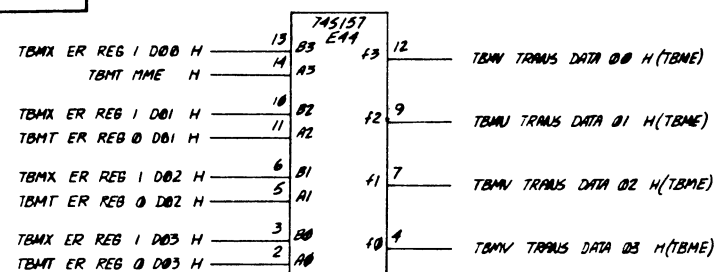




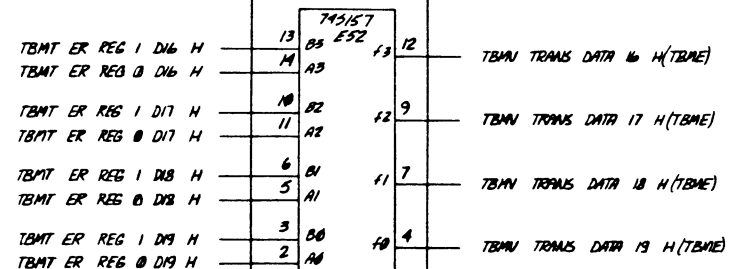
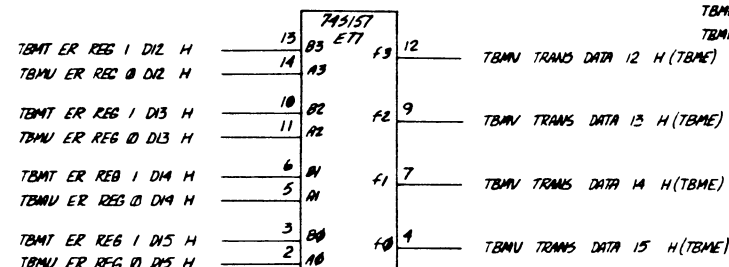
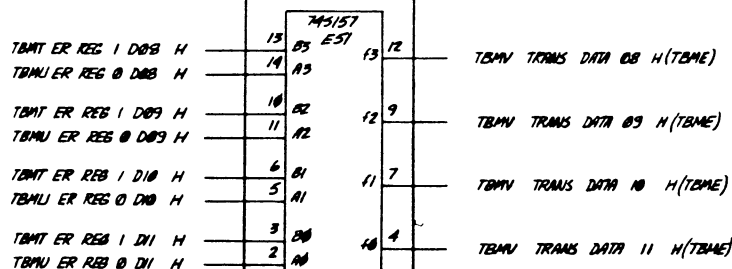
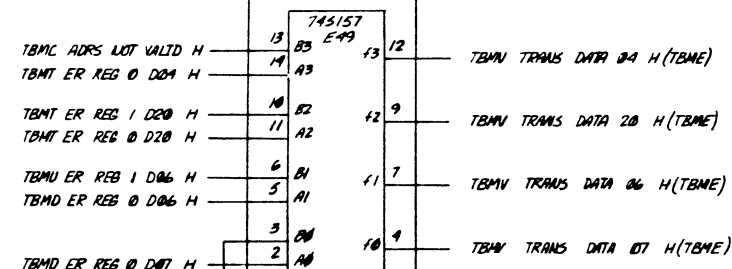


"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

10-2228W M8222-01 2 1



TBMD SEL ID MUX H



745157

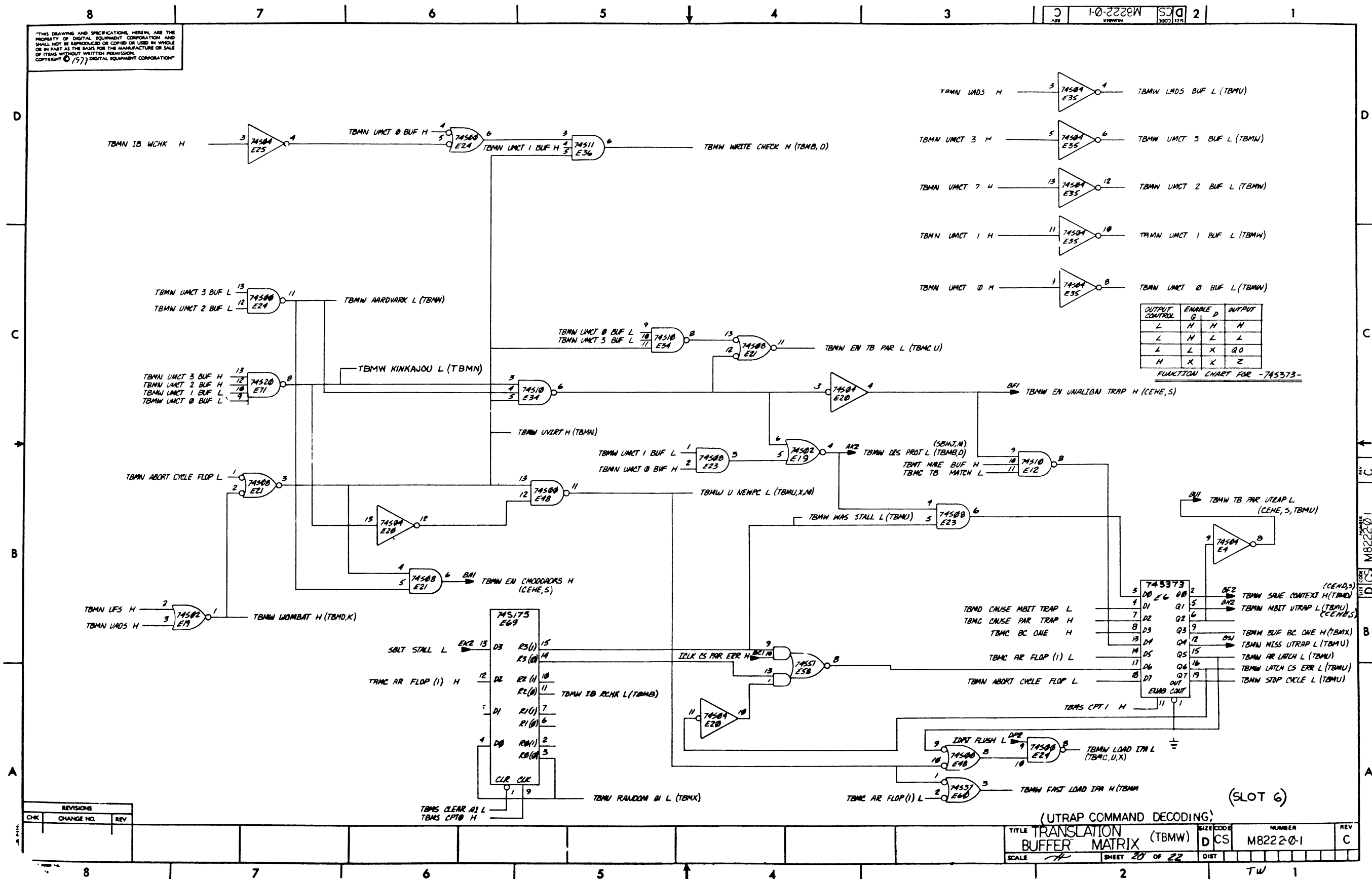
INPUTS				OUTPUTS	
STROBE	SELECT	A	B	745157	
H	X	X	X	L	
L	L	L	X	L	
L	L	H	X	H	
L	H	X	L	L	
L	H	X	H	H	

H=HIGH LEVEL
L=LOW LEVEL
X=IRRELEVANT

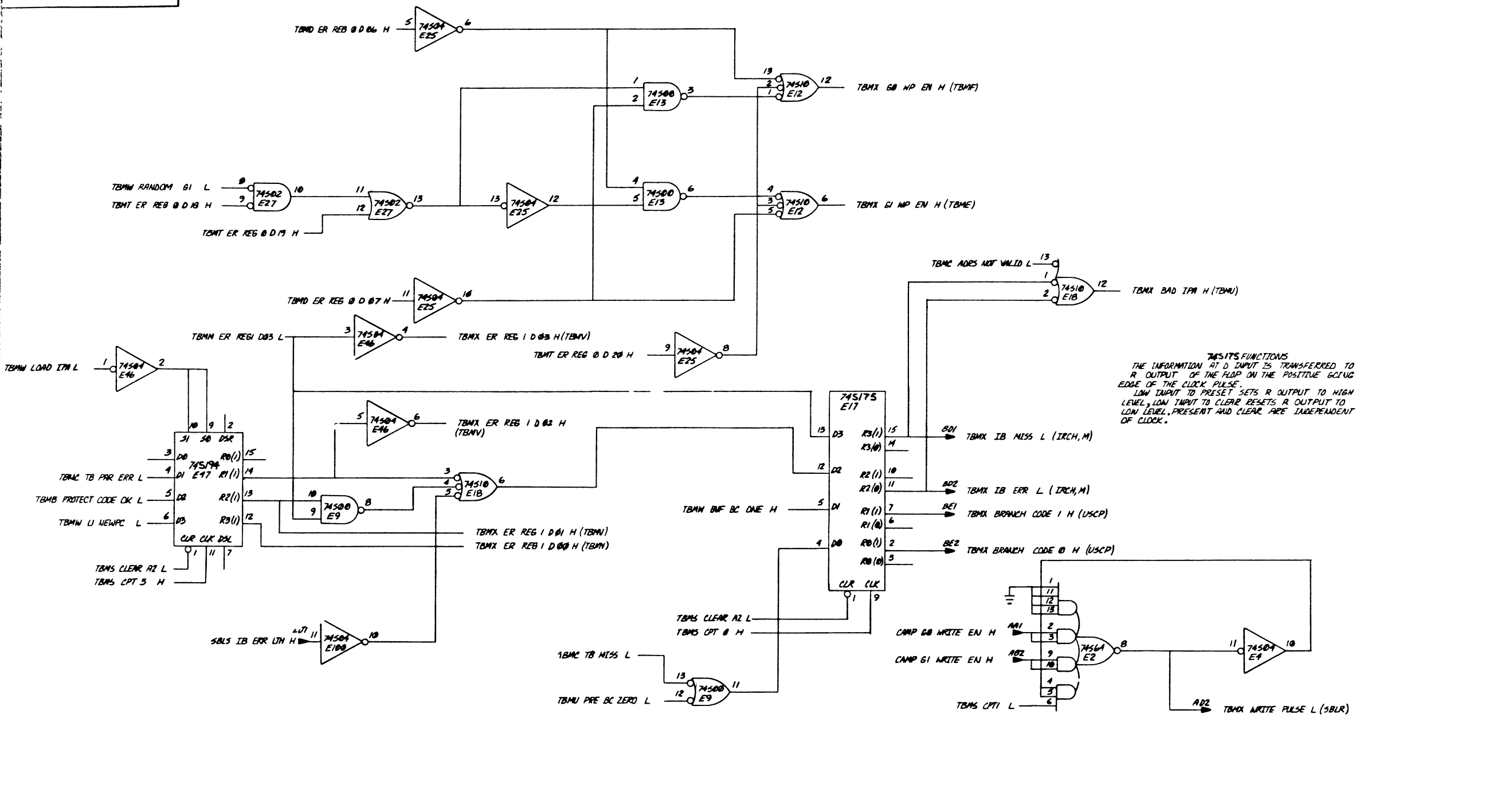
(SLOT 6)
(ID MUX & MEMORY PARITY CHECK)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		TRANSLATION (TBMV)		NUMBER		REV.	
BUFFER MATRIX		D CS		M8222-01		C	
SCALE	SHEET		19 OF 22		DIST.		



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF OTHERS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

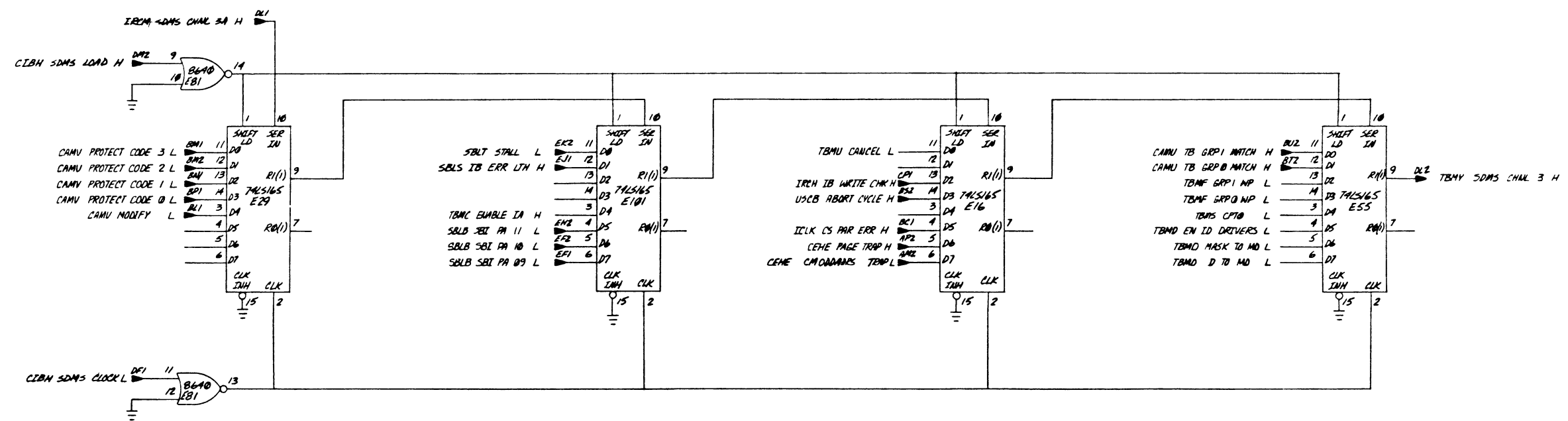


745175 FUNCTIONS
THE INFORMATION AT D INPUT IS TRANSFERRED TO R OUTPUT OF THE FLOP ON THE POSITIVE GOING EDGE OF THE CLOCK PULSE.
LOW INPUT TO PRESET SETS R OUTPUT TO HIGH LEVEL, LOW INPUT TO CLEAR RESETS R OUTPUT TO LOW LEVEL, PRESET AND CLEAR ARE INDEPENDENT OF CLOCK.

REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 6)		(TB WRITE PULSE)		TITLE		SIZE	CODE	NUMBER	REV.
TRANSLATION		BUFFER MATRIX		D		CS	M8222-01	C	
SCALE		SHEET 21 OF 22		DIST.		TW			

"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

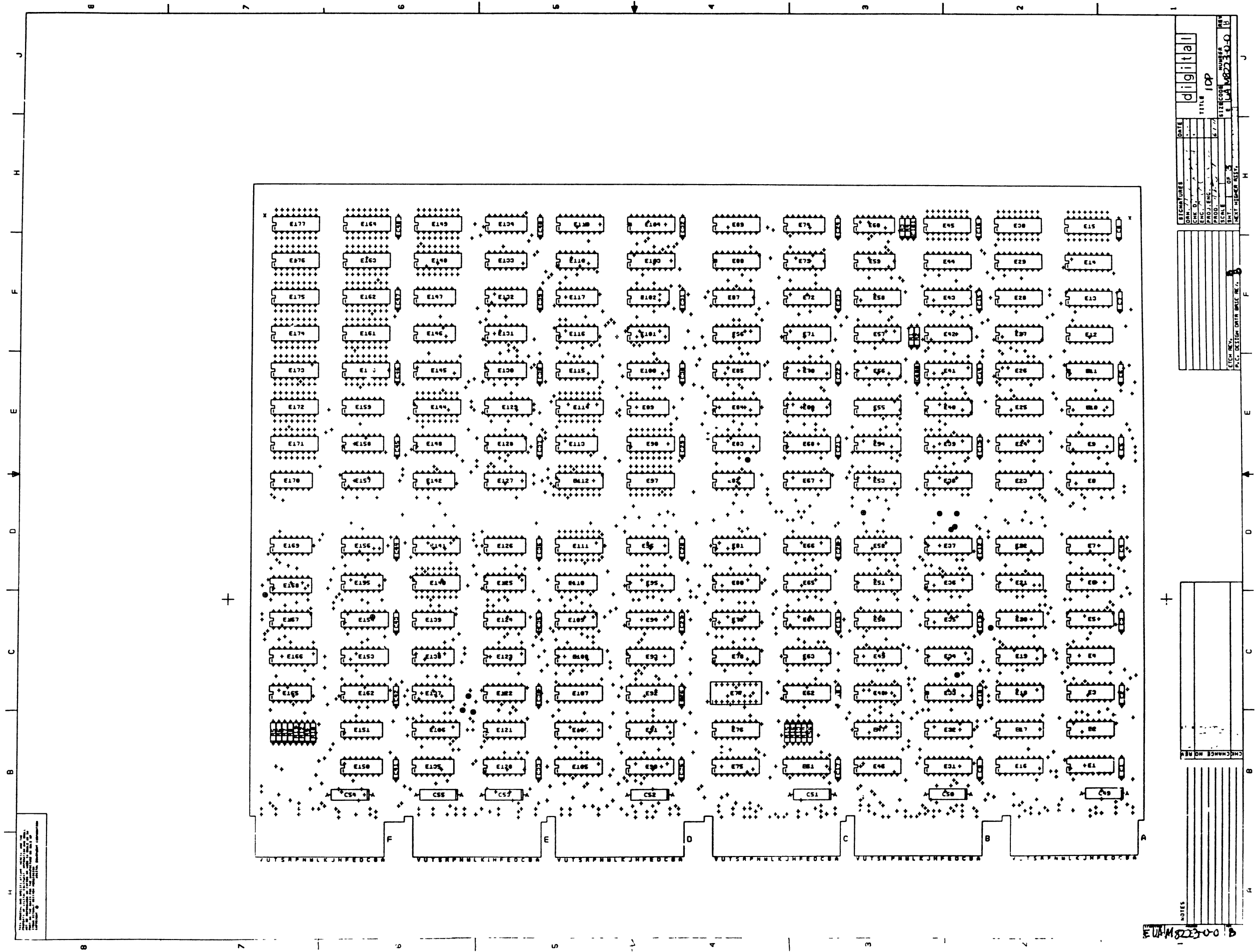


- 74LS165 FUNCTIONS
1. 8-BIT SHIFT REGISTER.
 2. THE OUTPUT COMES FROM FLIP FLOP NUMBER 7.
 3. IF SHIFTLOAD IS LOW DATA IS LOADED FROM D INPUTS REGARDLESS OF CLOCK.
 4. OTHERWISE DATA SHIFTS FROM 0 TOWARD 7 ON CLOCK RISING EDGE.

(SLOT 6)

(V BUS REGISTERS)

REVISIONS													TITLE		SIZE	CODE	NUMBER		REV.
CHK	CHANGE NO.	REV											TRANSLATION (TBMY)		D	CS	M8222-0-1		C
													SCALE		SHEET 22 OF 22		DIST.		
																	TW		

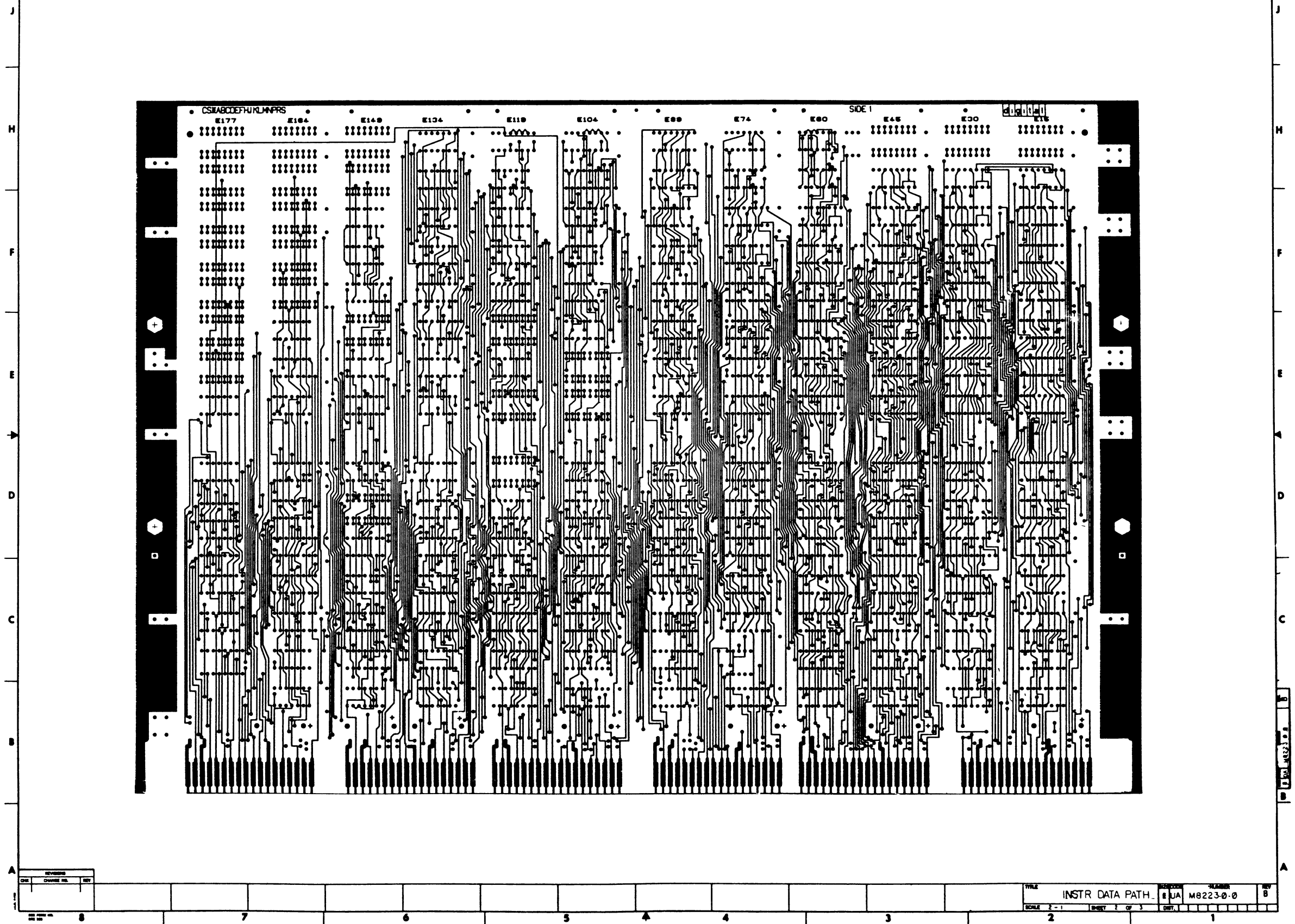


SIGNATURES		DATE	TITLE
DESIGNER	DATE	6/77	digital
CHECKED	DATE		
APPROVED	DATE		
SCALE		OF	
NEXT NUMBER LIST			

NOTES
CHANGE NO. 1
CHANGE NO. 2
CHANGE NO. 3
CHANGE NO. 4
CHANGE NO. 5
CHANGE NO. 6
CHANGE NO. 7
CHANGE NO. 8
CHANGE NO. 9
CHANGE NO. 10

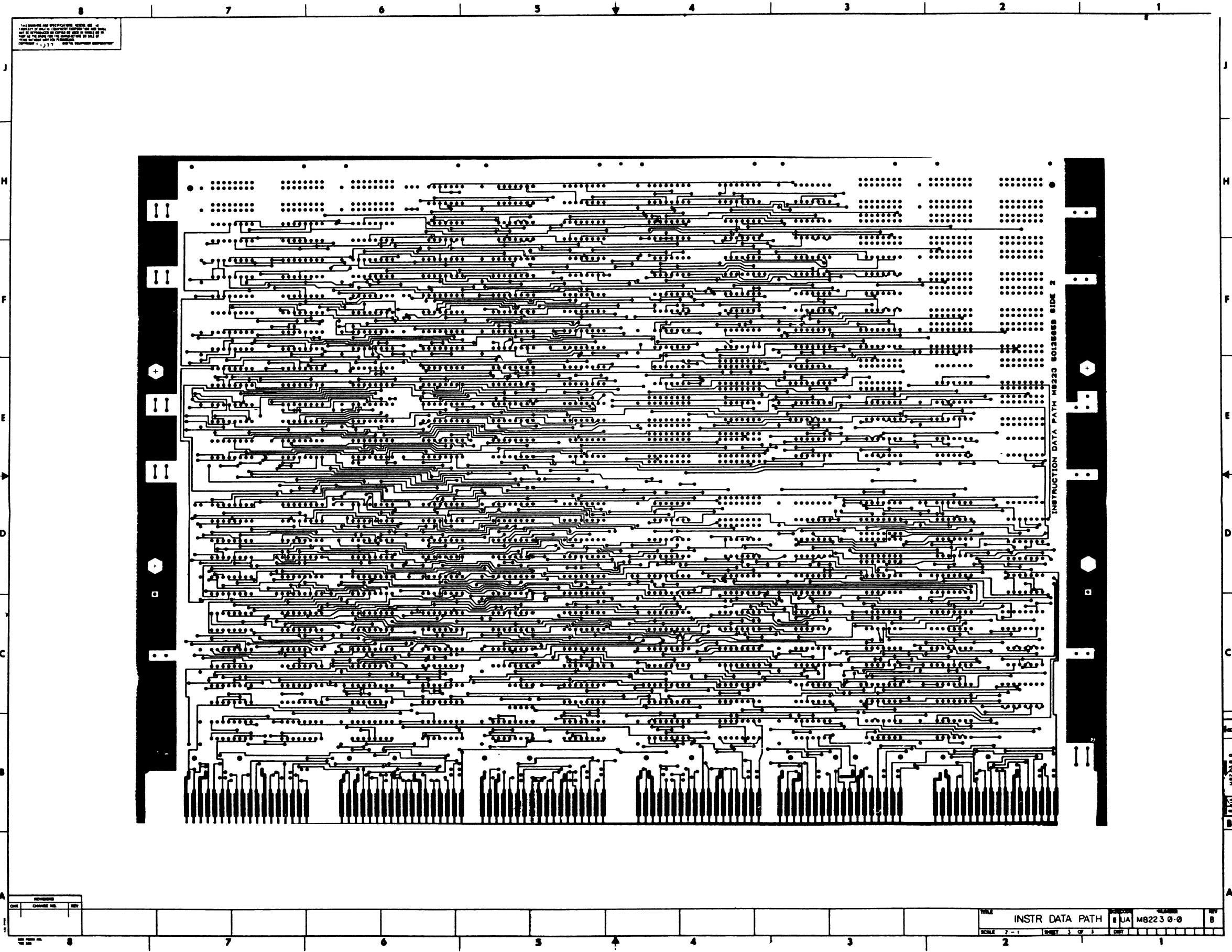
EUM 8223-0-0 B

THIS DRAWING IS UNCLASSIFIED
DATE 01-10-2001 BY 6032
REASON: 1.5(4) DOWNGRADING
CLASSIFICATION
01077



REV	DATE	BY	CHK
1			

INSTR DATA PATH
M8223-0-0
8
SCALE 2-1
SHEET 2 OF 3
DATE



1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS OF BOARD ARE 10.000" X 10.000".
3. DIMENSIONS OF BOARD ARE 10.000" X 10.000".
4. DIMENSIONS OF BOARD ARE 10.000" X 10.000".
5. DIMENSIONS OF BOARD ARE 10.000" X 10.000".
6. DIMENSIONS OF BOARD ARE 10.000" X 10.000".
7. DIMENSIONS OF BOARD ARE 10.000" X 10.000".
8. DIMENSIONS OF BOARD ARE 10.000" X 10.000".

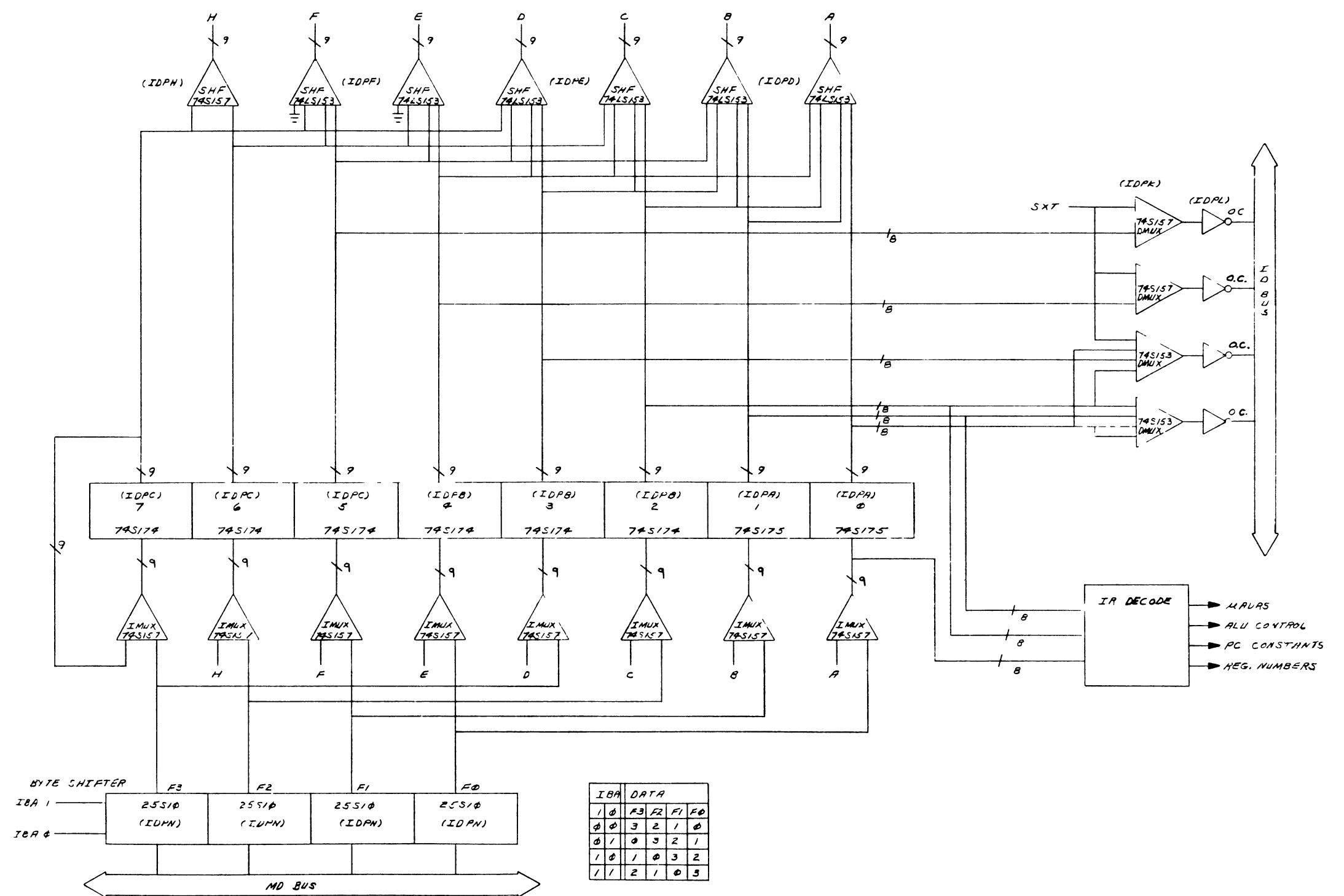
REV	DATE	BY	CHK
1			

INSTR DATA PATH	M8223 0-0	REV B
SCALE 2-1	SHEET 3 OF 3	DATE

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:					
MADE BY F. MALANSON DATE 23 SEP 77		CHECKED F. SMART DATE 5-12-77		SECTION																	
ENG C. Calamian DATE 6-16-77		PROD Mike Terilla 6-17-77		ISSUED SECTION																	
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION															REF DESIGNATION			
1	E-MD-5012565-0-0	5012565	ETCH BOARD	1																	
2		1012784	CAP .047UF 50V	51													C1-C48,C56,C100,C101				
3		1012084-01	CAP 8UF 25V	7													C49-C55				
4		1301972	RES 270,1/4 W, 5%	2													R1,R3				
5		1301890	RES 560, 1/4 W, 5%	2													R2,R4				
6		1300247	RES 120, 1/4 W, 5%	2													R13,R14				
7		1300250	RES 150, 1/4 W, 5%	2													R15,R16				
8		1300295	RES 330, 1/4 W, 5%	4													R5,R7,R9,R11				
9		1301775	RES 820, 1/4W, 5%	4													R6,R8,R10,R12				
10		1910532	IC DEC 74S00	7													E100,E126,E137,E139,E74,E155,E130				
11		1910534	IC DEC 74S04	7													E102,E120,E127,E142,E96,E118,E170				
12		1912389	IC DEC 74S08	4													E124,E134,E138,E158				
13		1910536	IC DEC 74S10	6													E109,E99,E117,E116,E159,E151				
14		1910537	IC DEC 74S11	6													E82,E131,E121,E132,E156,E168				
15		1910539	IC DEC 74S20	2													E123,E169				
16		1910541	IC DEC 74S40	3													E122,E101,E110				
17		1911712	IC DEC 74S51	7													E133,E128,E146,E147,E157,E143,E125				
18		1910542	IC DEC 74S64	8													E113,E115,E135,E150,E60,E59,E73,E165				
19		1910544	IC DEC 74S74	2													E167,E87				
20		1910547	IC DEC 74S153	13													E89,E104,E119,E103,E88,E62,E63,E78,E79 E91,E92,E106,E107				
E.C.O. NO. 100000																					
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT ©1977 DIGITAL EQUIPMENT CORPORATION"				TITLE INSTRUCTION DATA PATH				ASSY NO. E-UA-M8223-0-0				SIZE B	CODE PL	NUMBER M8223-0-0				REV. B			
								SHEET 1 OF 2				INSERTION PARTS LIST DATA BASE REV B									

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:			
MADE BY F. MALANSON DATE 23 SEP 77		CHECKED F. SMART DATE 5-12-77		SECTION															
ENG C. Calamari DATE 6-16-77		PROD Mike Tivello DATE 6-1-77		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8223-0-0													REF DESIGNATION		
21		1912845	IC DEC 74LS153	24													E8,E70,E43,E29,E14,E10,E7,E86,E58,E44, E81,E25,E56,E72,E71,E57,E26,E85,E52, E12,E27,E28,E13,E11		
22		1910549	IC DEC 74S158	2													E108,E95		
23		1910548	IC DEC 74S 157	22													E5,E9,E6,E65,E84,E55,E37,E40,E42,E20, E21,E64,E24,E69,E51,E23,E54,E68,E4,E17,E32,E47,		
24		1910545	IC DEC 74S112	1													E166		
25		1913788	IC DEC 26S10	8													E1,E16,E31,E46,E61,E75,E76 E105		
26		1912693	IC DEC 25S10	8													E2,E3,E18,E19,E33,E34,E48,E49		
27		1911415	IC DEC 10125	1													E77		
28		1910550	IC DEC 74S174	8													E38,E35,E50,E41,E53,E22,E39,E83		
29		1910957	IC DEC 74S175	7													E67,E36,E80,E66,E129,E145,E136		
30		1913839	IC DEC 74LS165	6													E93,E94,E141,E153,E152,E154		
31		1910552	IC DEC 74S194	1													E90		
32		1210711-02	HEX HANDLE ASSEMBLY	1															
33		900CC24-C1	EYELET	12															
34			SPARES	24													E15,E30,E45,E97,E98,E111,E112,E140, E144,E148,E149,E160-E164,E171-E177, E114.		
E.C.O. NO.																			
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE				ASSY NO.				SIZE		CODE		NUMBER		REV.	
				INSTRUCTION DATA PATCH				E-UA-M8223-0-0				B		PL		M8223-0-0		B	
				SHEET 2 OF 2				INSERTION PARTS LIST DATA BASE REV				E							

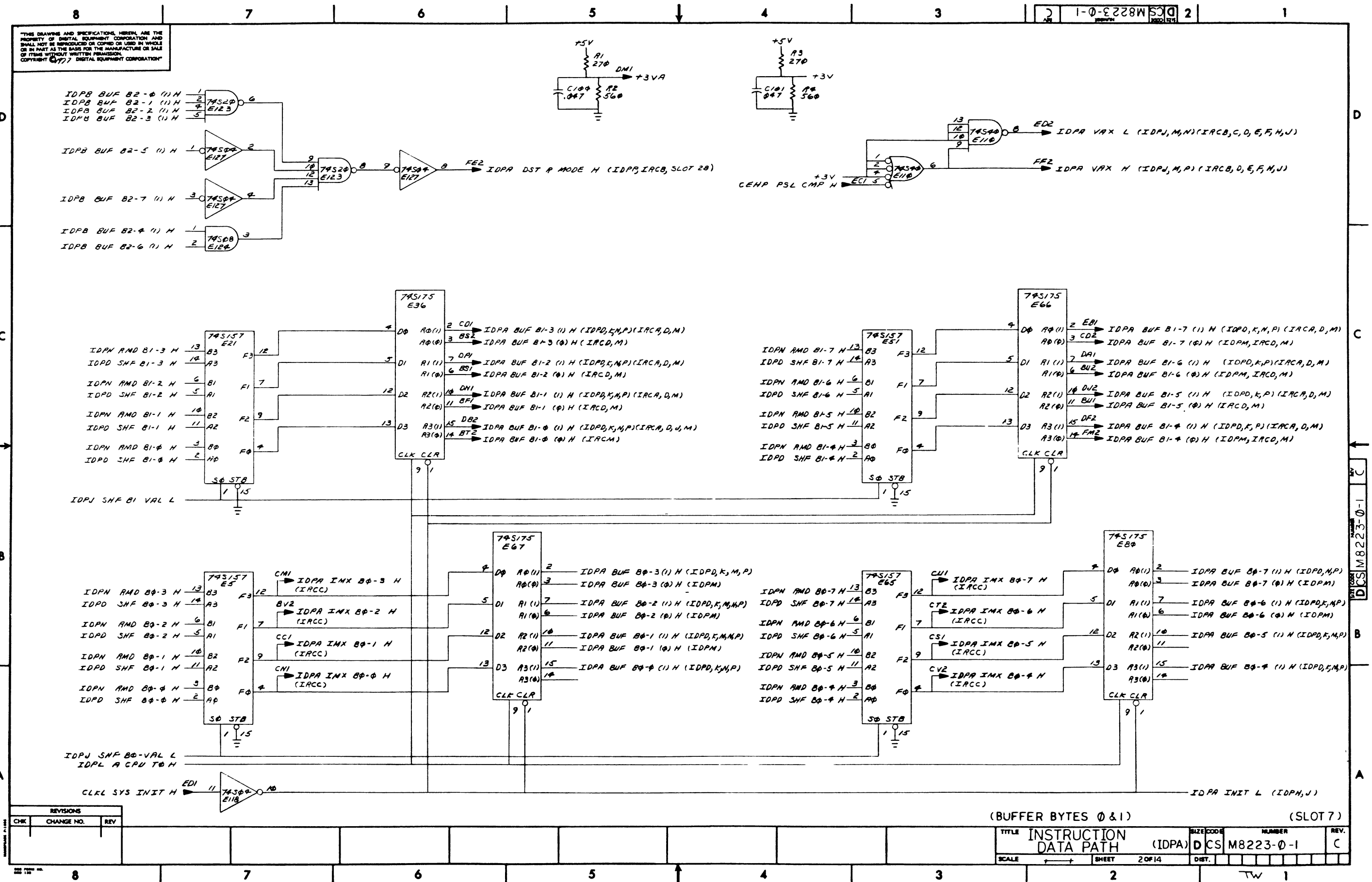
"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION"



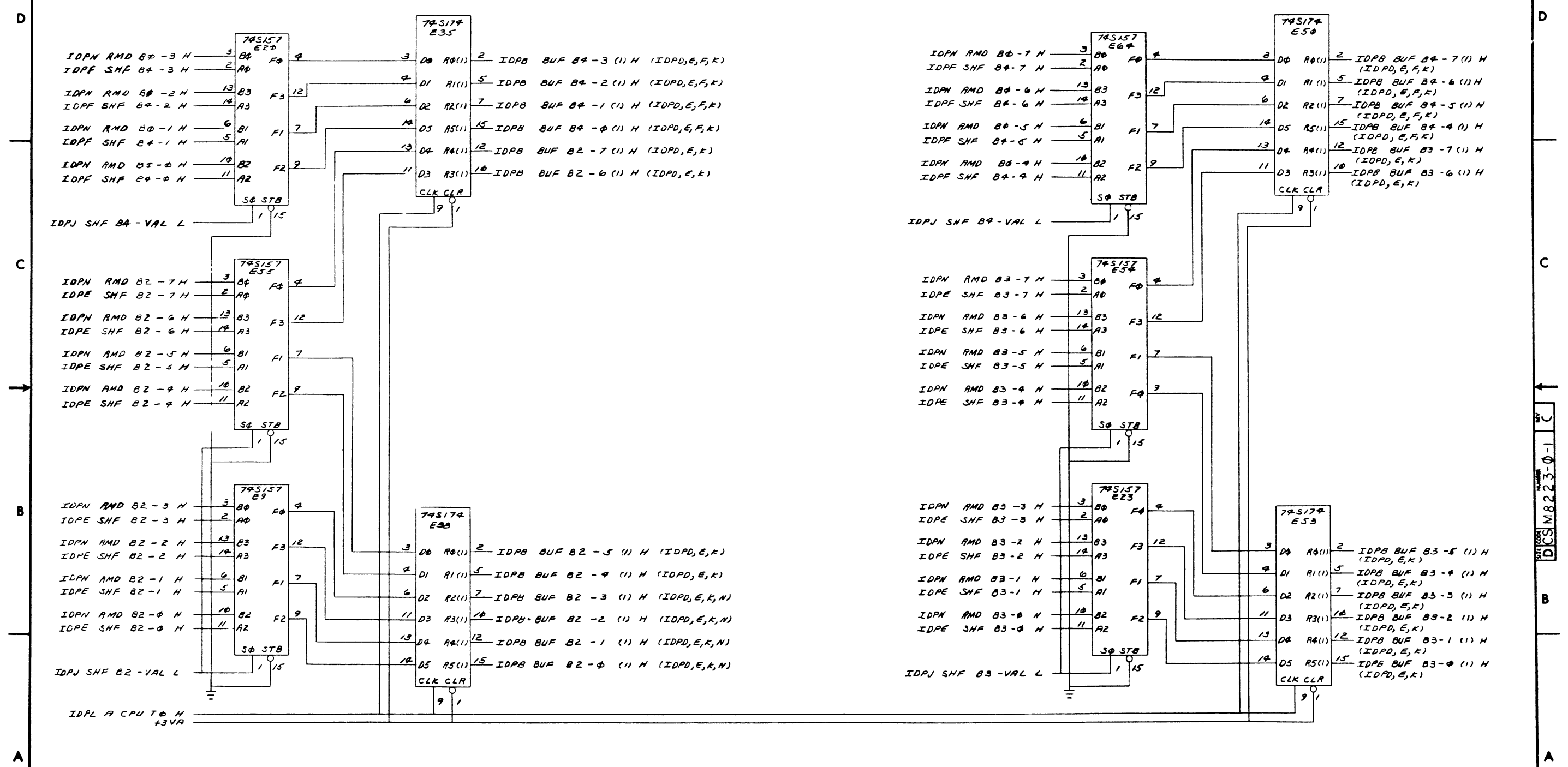
IBA	DATA
1 0	F3 F2 F1 F0
0 0	3 2 1 0
0 1	0 3 2 1
1 0	1 0 3 2
1 1	2 1 0 3

(BLOCK DIAGRAM)		(SLOT 7)	
DRN. by [Signature]	4-21-77	FIRST USED ON [Signature]	
CHK'D [Signature]	5-17-77	TITLE	
ENG. [Signature]	5-17-77	INSTRUCTION DATA	
PROJ. ENG. [Signature]	5-17-77	PATH (IDP)	
PROD. [Signature]	6-1-77		
NEXT HIGHER ASSY		SIZE	CODE
		D	CS
SCALE	1 OF 14	NUMBER	REV.
SHEET			C

REV.	CHANGE NO.	DATE	BY
1	1	4/21/77	R. CHUMSAE
2	2	5/17/77	R. CHUMSAE
3	3	6/1/77	R. CHUMSAE



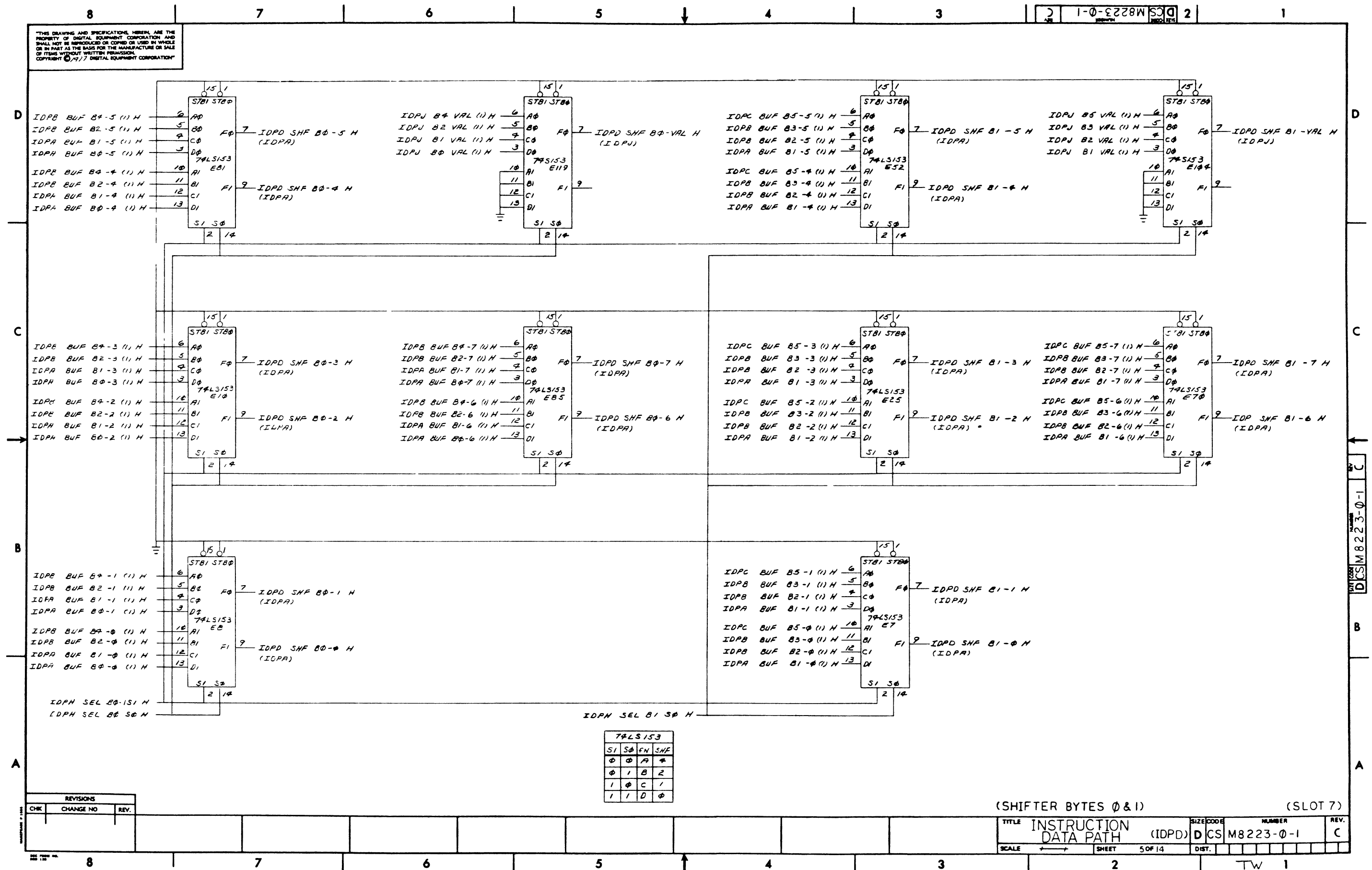
"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

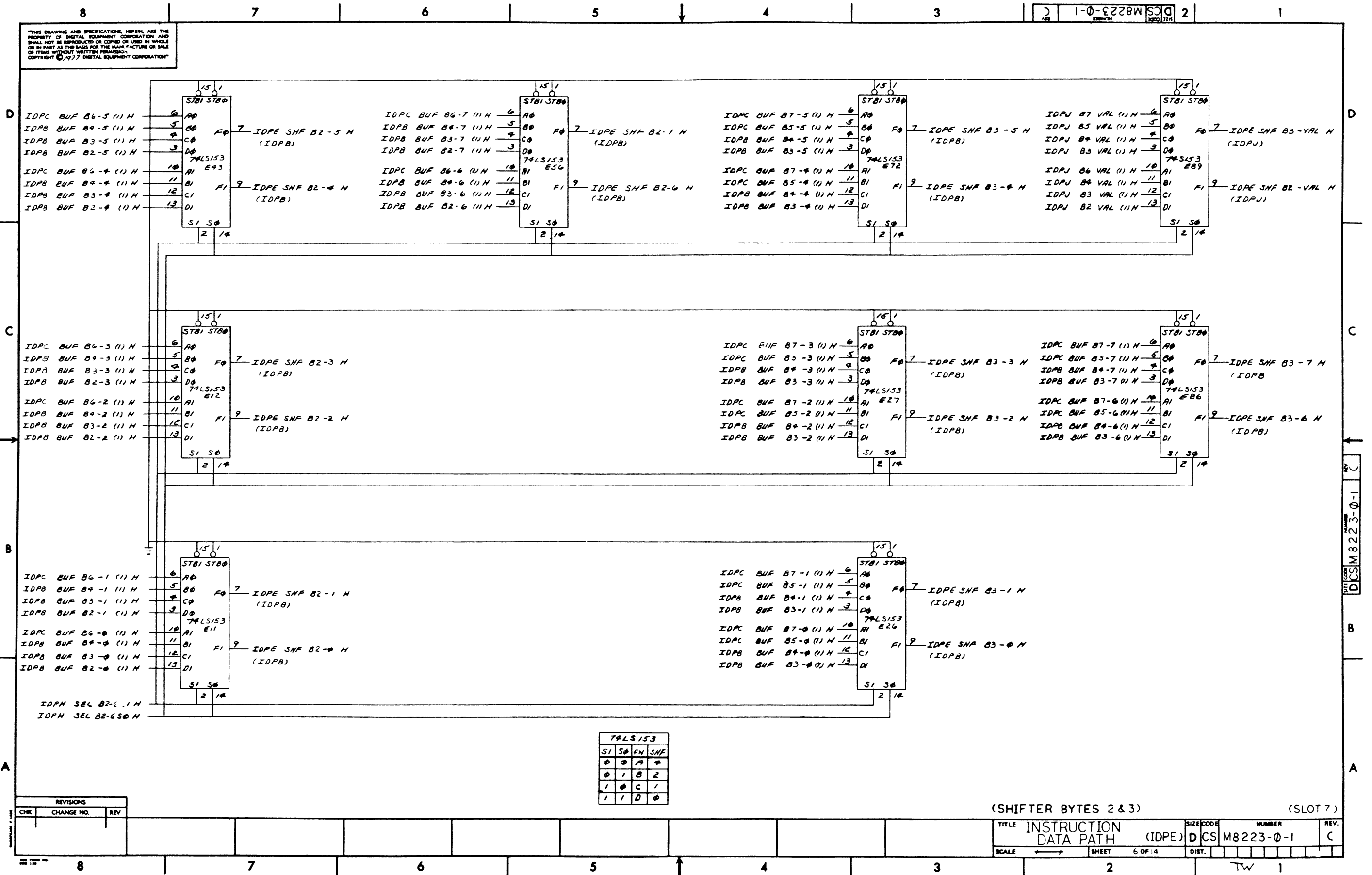


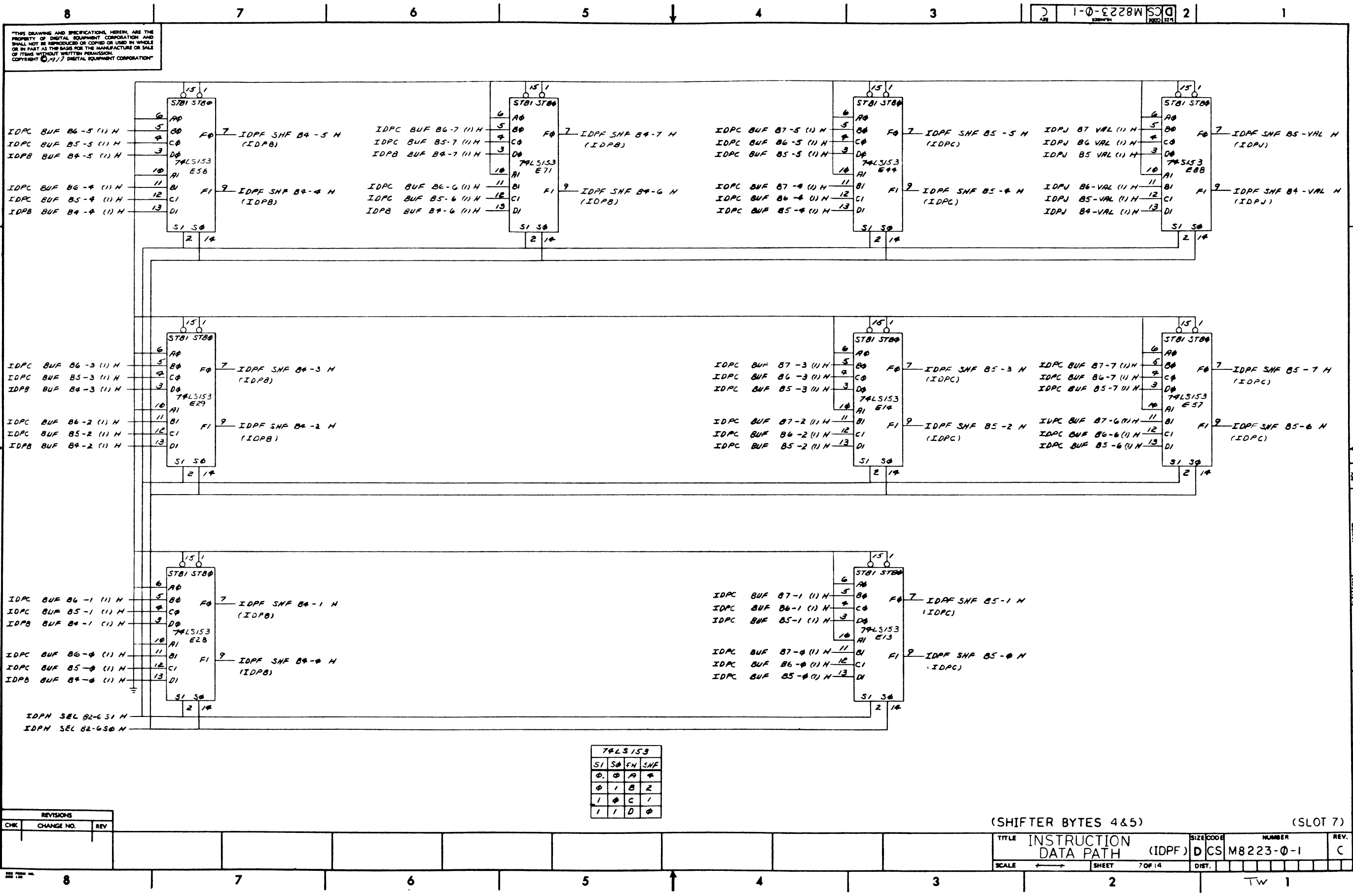
REVISIONS		
CHK	CHANGE NO.	REV.

(BUFFER BYTES 2 & 3 & 4)		(SLOT 7)	
TITLE	INSTRUCTION DATA PATH (IDPB)	SIZE CODE	NUMBER
SCALE	SHEET 3 OF 14	DIST.	REV. C

DCS M8223-0-1







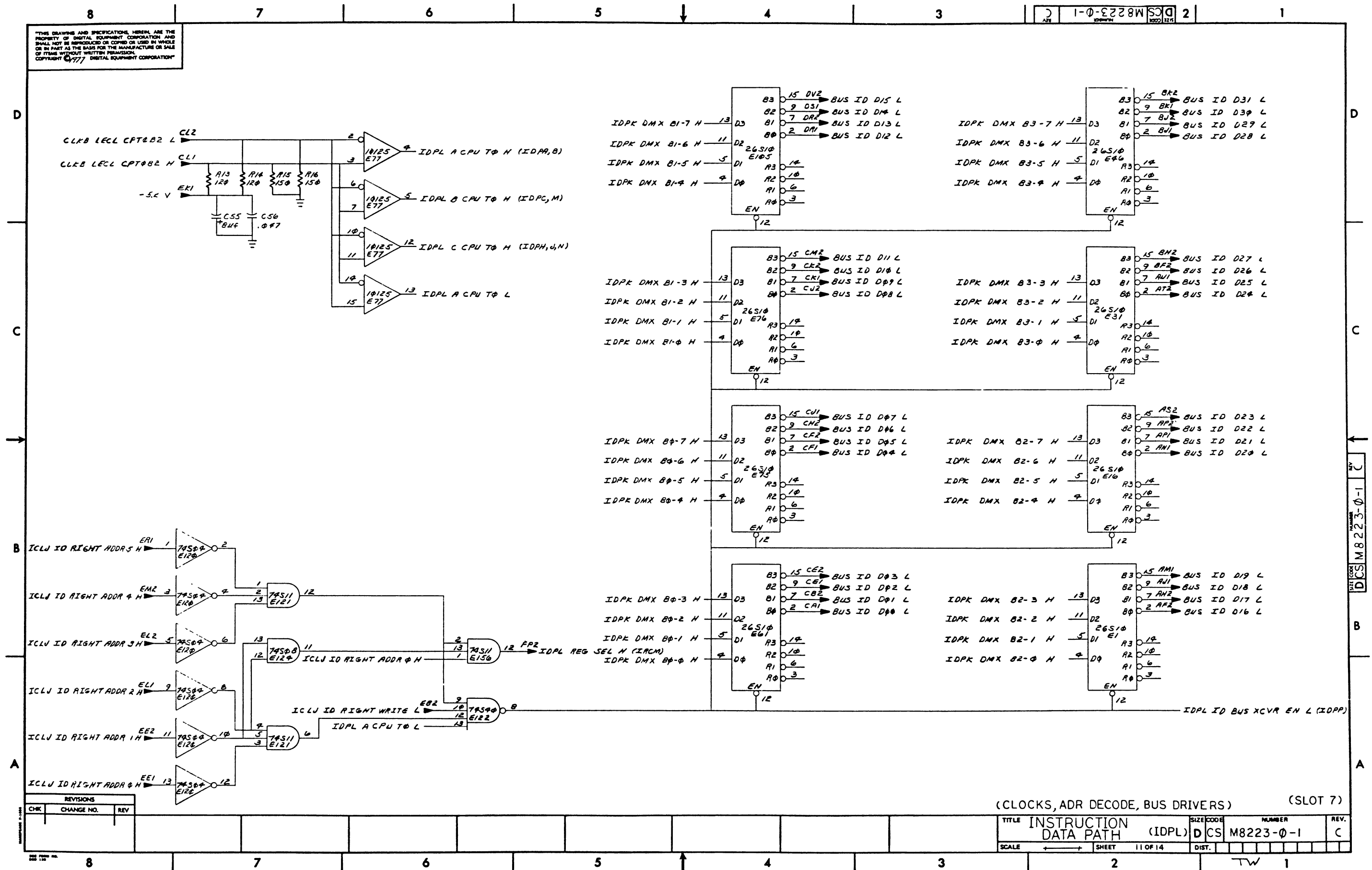
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

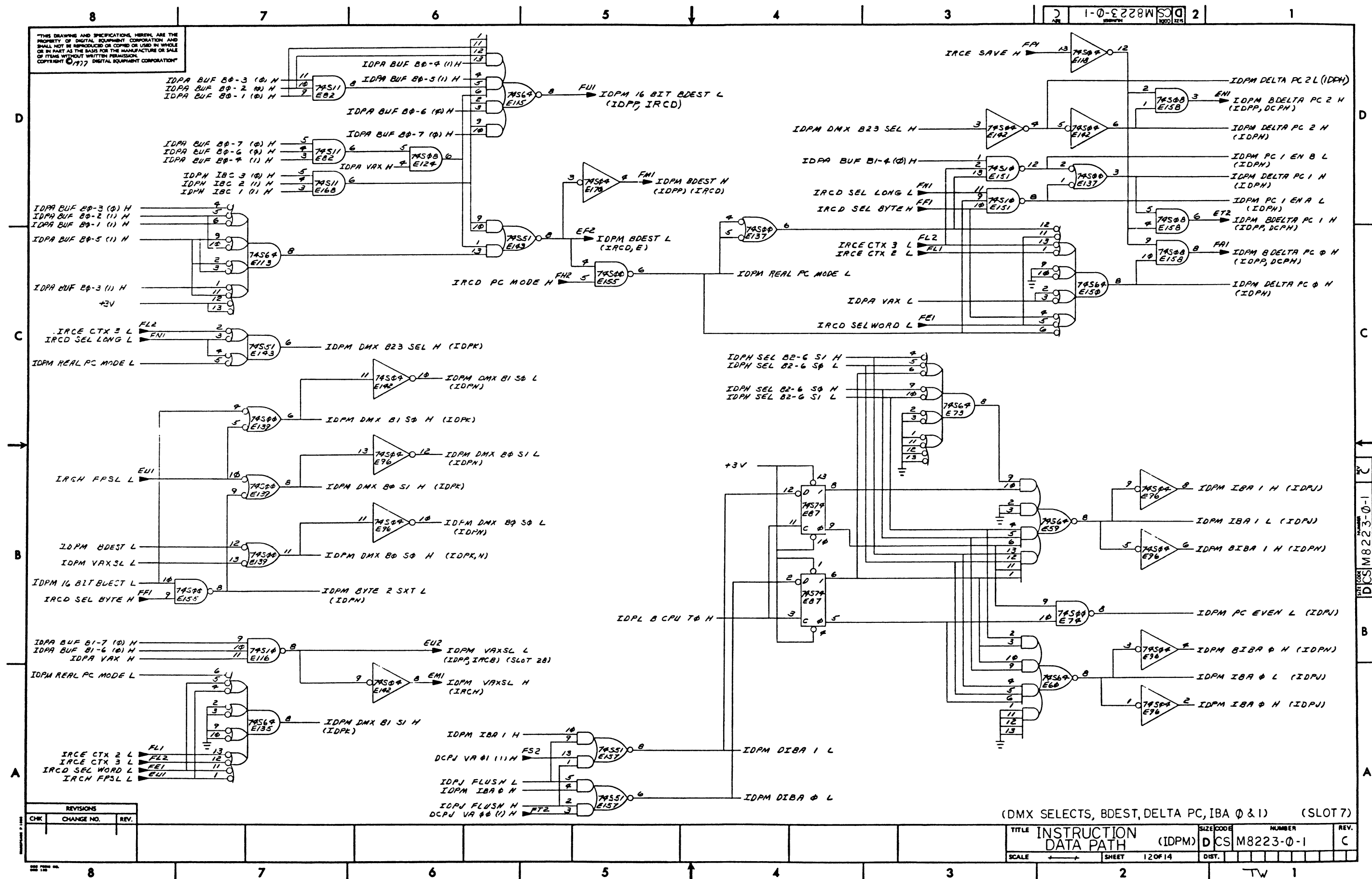
1-0-3228W CS 2

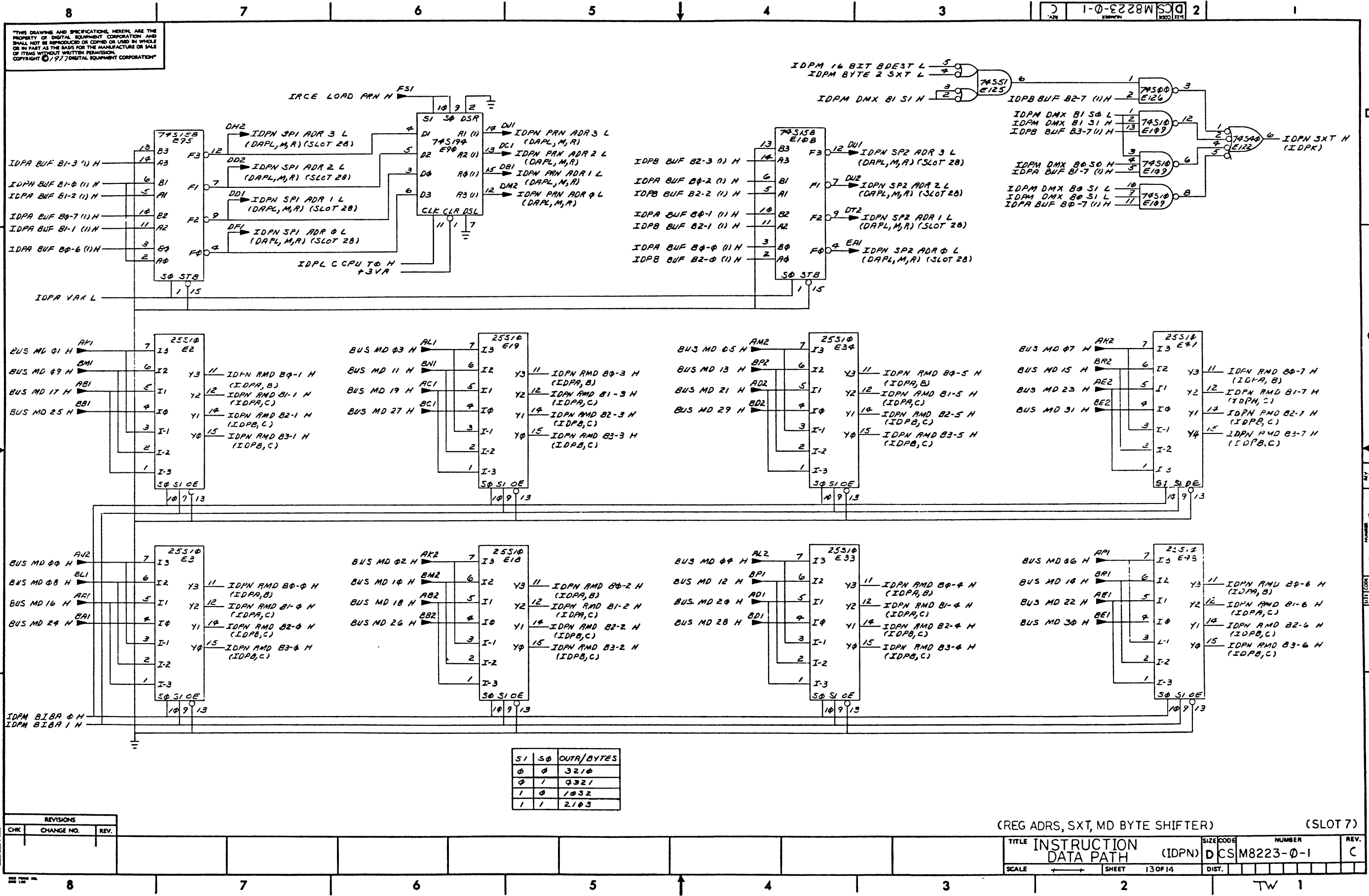
REVISEMENTS		
CHK	CHANGE NO.	REV

TALS153			
S1	S0	EN	SHF
0	0	0	0
0	1	0	1
1	0	0	1
1	1	0	0

(SHIFTER BYTES 4&5)		(SLOT 7)	
TITLE	INSTRUCTION DATA PATH (IDPF)	SIZE/CODE	NUMBER
SCALE	SHEET 7 OF 14	DIST.	REV. C







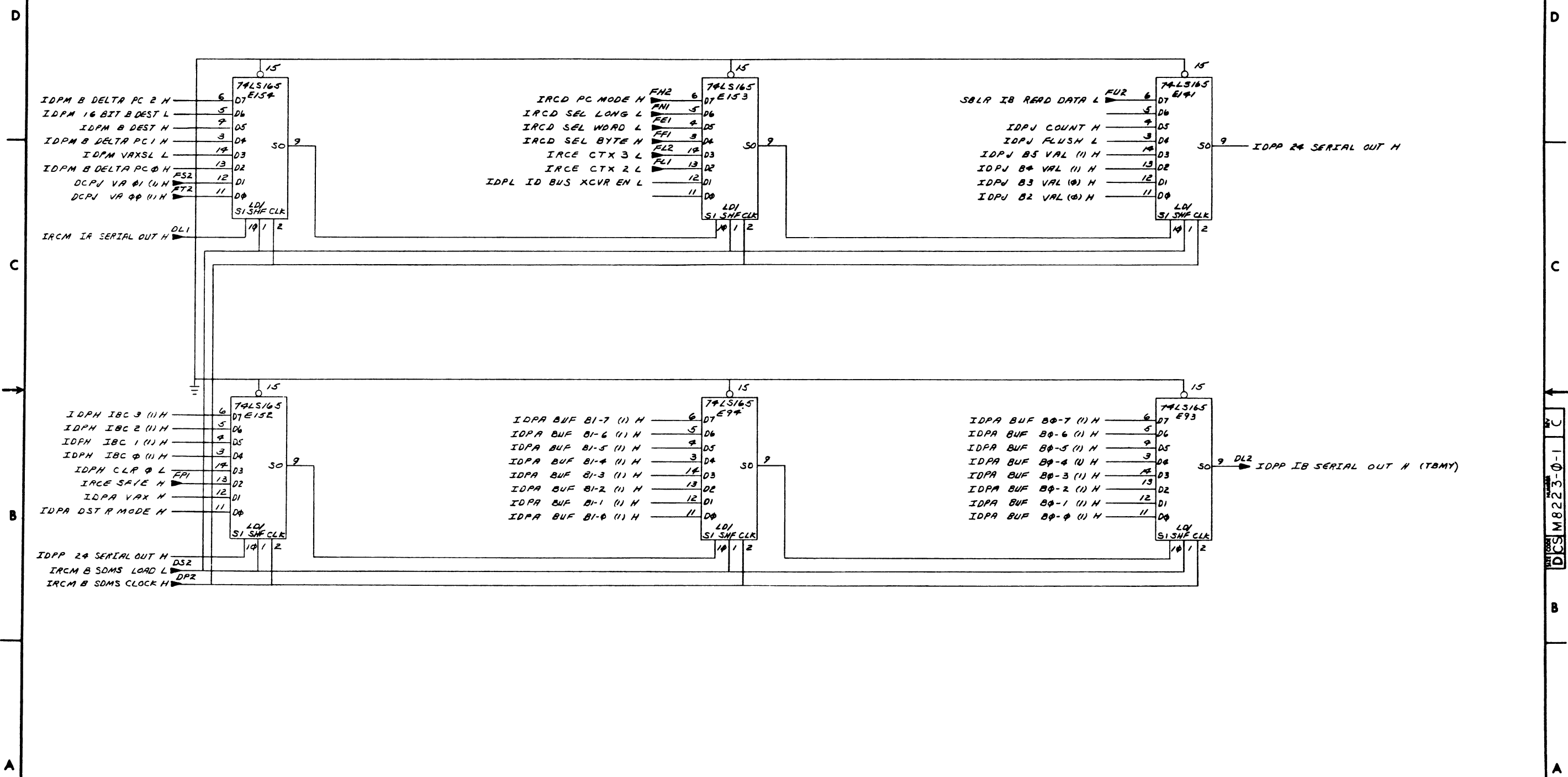
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

REVISIONS		
CHK	CHANGE NO.	REV.

SI	SO	OUTA/BYTES
0	0	3210
0	1	0321
1	0	1032
1	1	2103

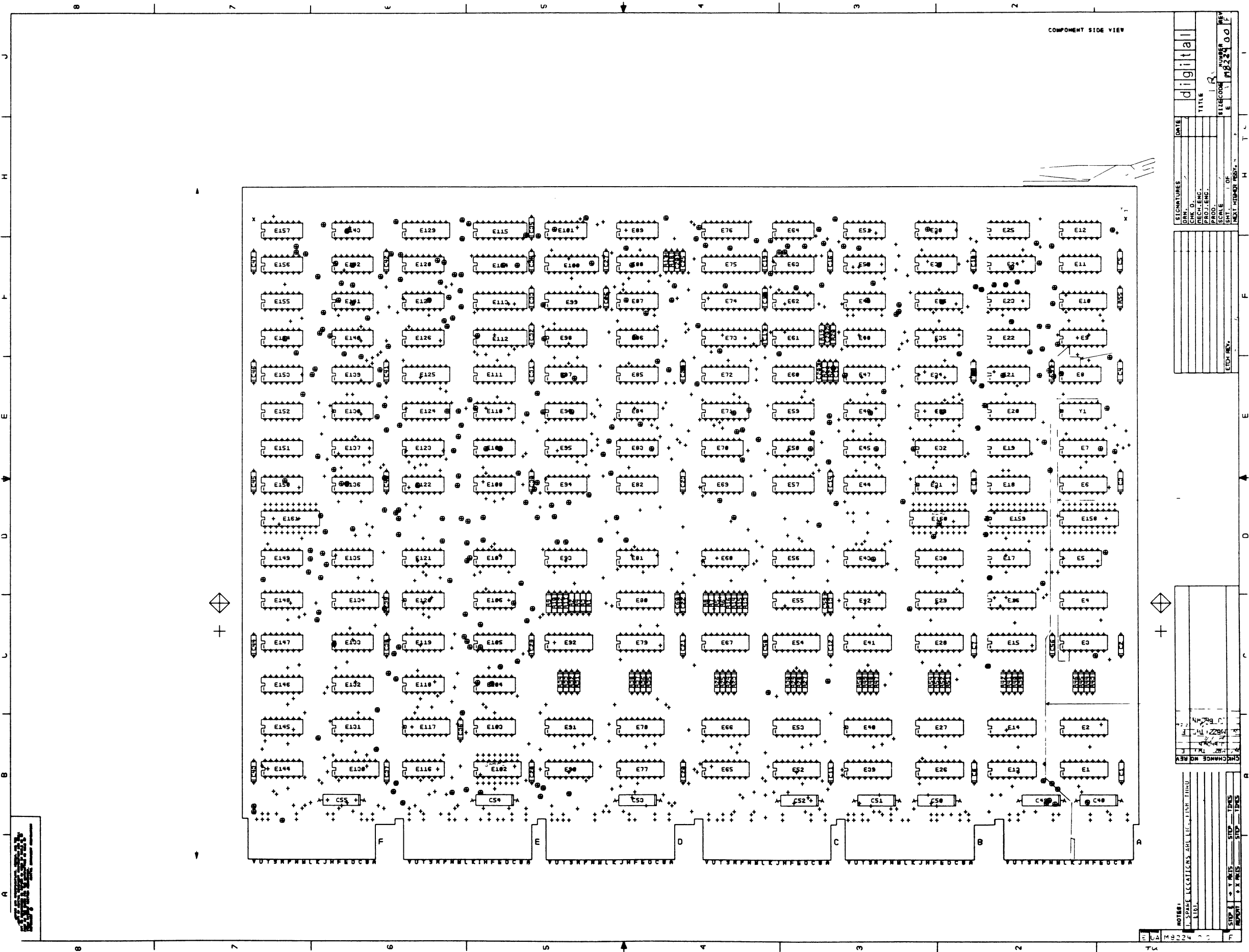
TITLE INSTRUCTION DATA PATH (IDPN)		SIZE CODE DCS	NUMBER M8223-0-1	REV. C
SCALE	SHEET 13 OF 14	DIST.	TW 1	

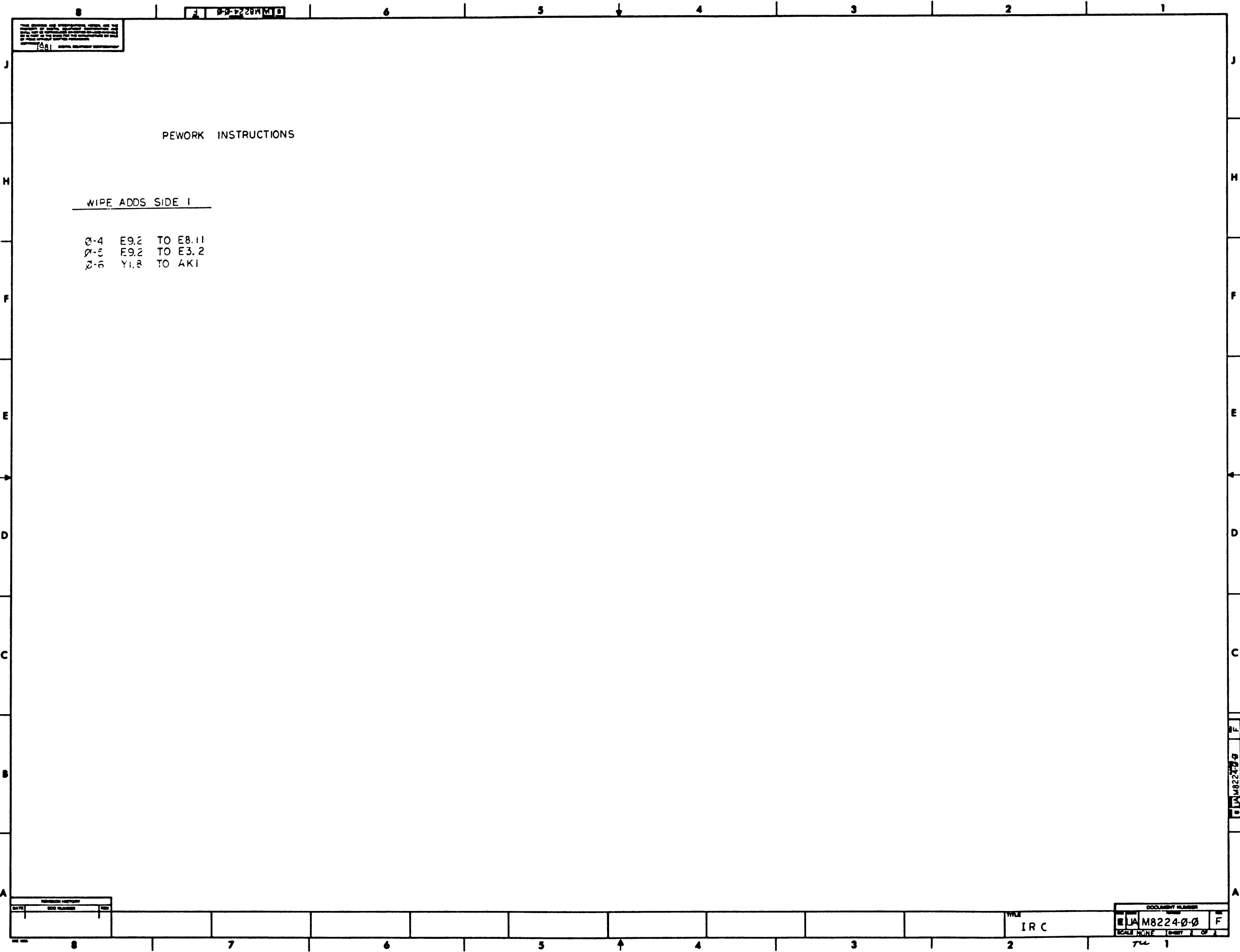
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

(V-BUS)		(SLOT 7)	
TITLE INSTRUCTION DATA PATH (IDPP)		SIZE CODE DCS	NUMBER M8223-0-1
SCALE	SHEET 14 OF 14	DIST.	REV. C
TW 1			





THIS DRAWING AND ANY INFORMATION CONTAINED HEREIN IS UNCLASSIFIED
DATE 01-11-2011 BY 60322/UC/MLP

60322/UC/MLP

60322/UC/MLP

REVISION HISTORY		
DATE	ECO NUMBER	REV

DOCUMENT NUMBER
JA M8224-0-0 F
SCALE NONE SHEET 2 OF 3

WALL
IRC

LINE ITEM		DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
1	1	E-MD-5012873-0-0	5012873-00	INSTR REGISTERED AND CLOCK	1	
2	2		1012784-00	.047 MFD 50V +80-20% CER	55	C1-C47,C58,C59,C60,C56,C57, CONT C201-C203
3	3		1012084-01	8 MFD 25V 6% 30D AL EL	8	C48-C55
4	4		1300447-00	4.70 K .25 W 5.0 % CC	33	R23-R55
5	5		1300247-00	120.0 .25 W 5.0 % CC	8	R3,R4,R6,R8,R10,R12,R13,R14
6	6		1301972-00	270.0 .25 W 5.0 % CC	3	R17,R19,R21
7	7		1301890-00	560.0 .25 W 5.0 % CC	3	R18,R20,R22
8	8		1813951-00	OSCILLATOR, XTAL 1.0 KHZ	1	Y1
9	9		2114018-00	MM 74C74 FF-D DUAL 10MHZ,CMOS	1	E8
10	10		1913839-00	74LS165 SHIFT REG.,8BIT	2	E88,E130
11	11		1910532-00	74S00 NAND GATE-QUAD 2IN	10	E17,E23,E31,E34,E89,E103,E106, CONT E109,E133,E138
12	12		1910534-00	74S04 INVERTER GATE-HEX 1I	12	E19,E47,E57,E62,E64,E86,E93, CONT E105,E127,E132,E135,E118
13	13		1912389-00	74S08 AND GATE-QUAD 2IN,PO	6	E22,E42,E51,E104,E126,E131
14	14		1910536-00	74S10 NAND GATE-TRIPLE 3IN	13	E21,E25,E43,E44,E49,E81,E98, CONT E119,E108,E136,E139,E143,E147
15	15		1910539-00	74S20 NAND GATE-DUAL 4INPU	4	E50,E128,E129,E151
16	16		1911712-00	74S51 AND-OR GATE-INVERT D	7	E18,E37,E48,E61,E87,E116,E123
17	17		1910542-00	74S64 A-O-I GATE 4-2-3-2	30	E83-E85,E94-E97,E110,E111,E121, CONT E140-E142,E145,E150,E152, CONT E154-E156,E148,E149,E60,E59,E82, CONT E107,E101,E122,E144,E146,E58
18	18		1300250-00	150.0 .25 W 5.0 % CC	8	R1,R2,R5,R7,R9,R11,R15,R16
19	19		1910537-00	74S11 AND GATE-TRIPLE 3INP	6	E12,E38,E45,E63,E120,E137
20	20		1910545-00	74S112 FF-JK DUAL,EDGE TRIG	4	E10,E20,E124,E125
21	21		1910956-00	74S151 MUX 1 OF 8	2	E7,E32
22	22		1910548-00	74S157 MUX 1 OF 2 (QUAD)	1	E24
23	23		1910552-00	74S194 SHIFT REG.,4BIT RIGH	3	E4,E6,E30

REVISION HISTORY			BASIC PART NO: M8224		DRN:	F. MALANSON	DATE: 12-MAY-80	D I G I T A L			
ENG!	ECO NUMBER	REV	SECTION A OF A								
INITIAL		D	SECTION VARIATION INDEX		CHK'D:	F. SMART	DATE: 12 MAY 80	TITLE		PARTS LIST	
SJ	M8224-TW003	D	[A] 00					INSTRUCTION REGISTER & CLOCK			
			[B]								
			[C]		DES.ENG:	C. CALAMARI	DATE: 12-MAY-80				
			[D]								
			[E]					DOCUMENT NUMBER			
			[F]		RESP.ENG.:	C. CALAMARI	DATE: 12 MAY 80				
			[H]					SIZE	CODE	NUMBER	REV
			[J]								
			[K]		MFG.ENG.:	M. TIRELLA	DATE: 12 MAY 80	K	PL	M8224-0-0	D
			[L]								
			[M]		ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:		EDIT #
			[N]		D-UA-M8224-0-0		B-DD-M8224-0-0		Z0702.PLS		10

"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.

COPYRIGHT (C) 1980. DIGITAL EQUIPMENT CORPORATION "

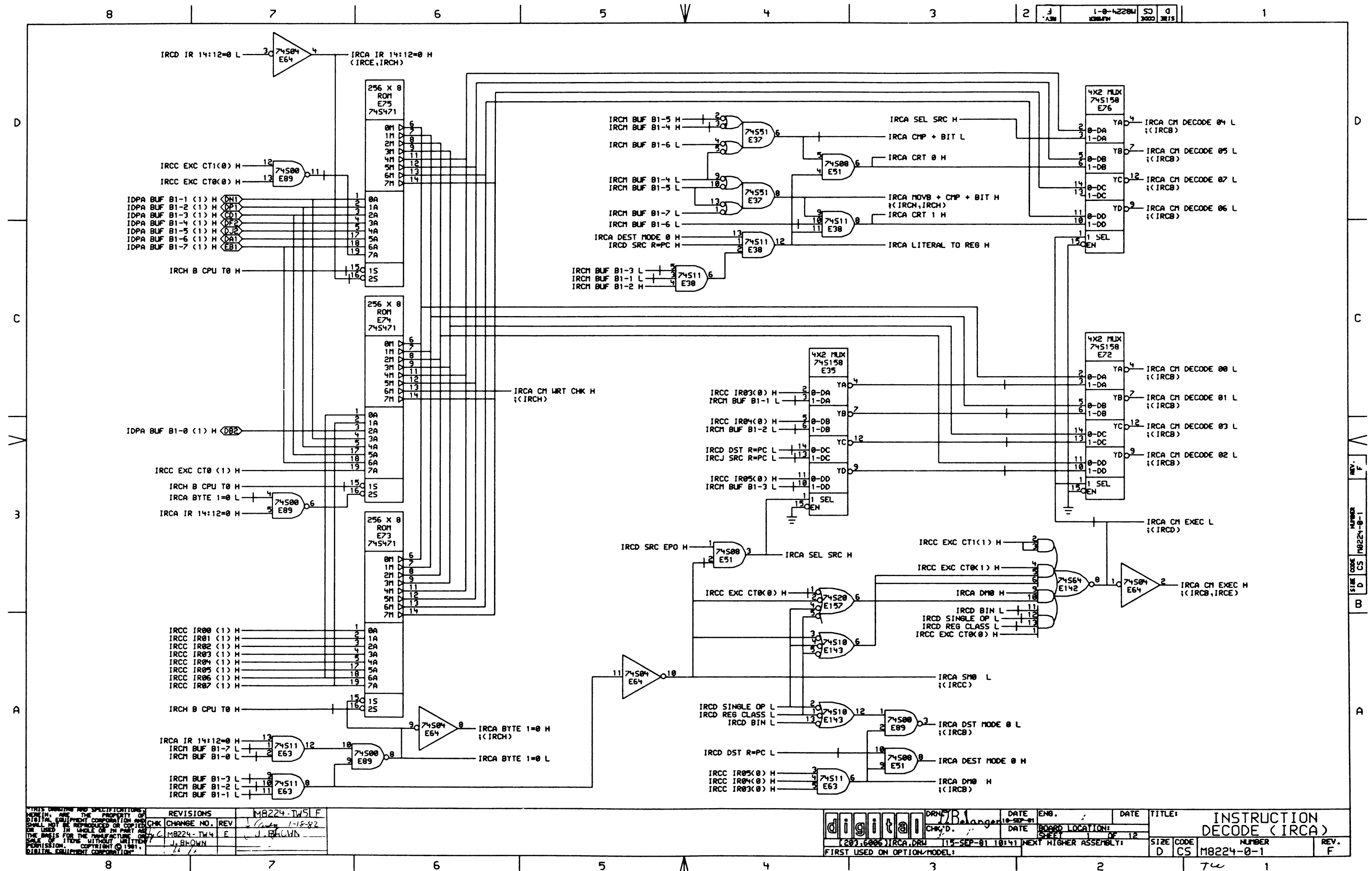
TW

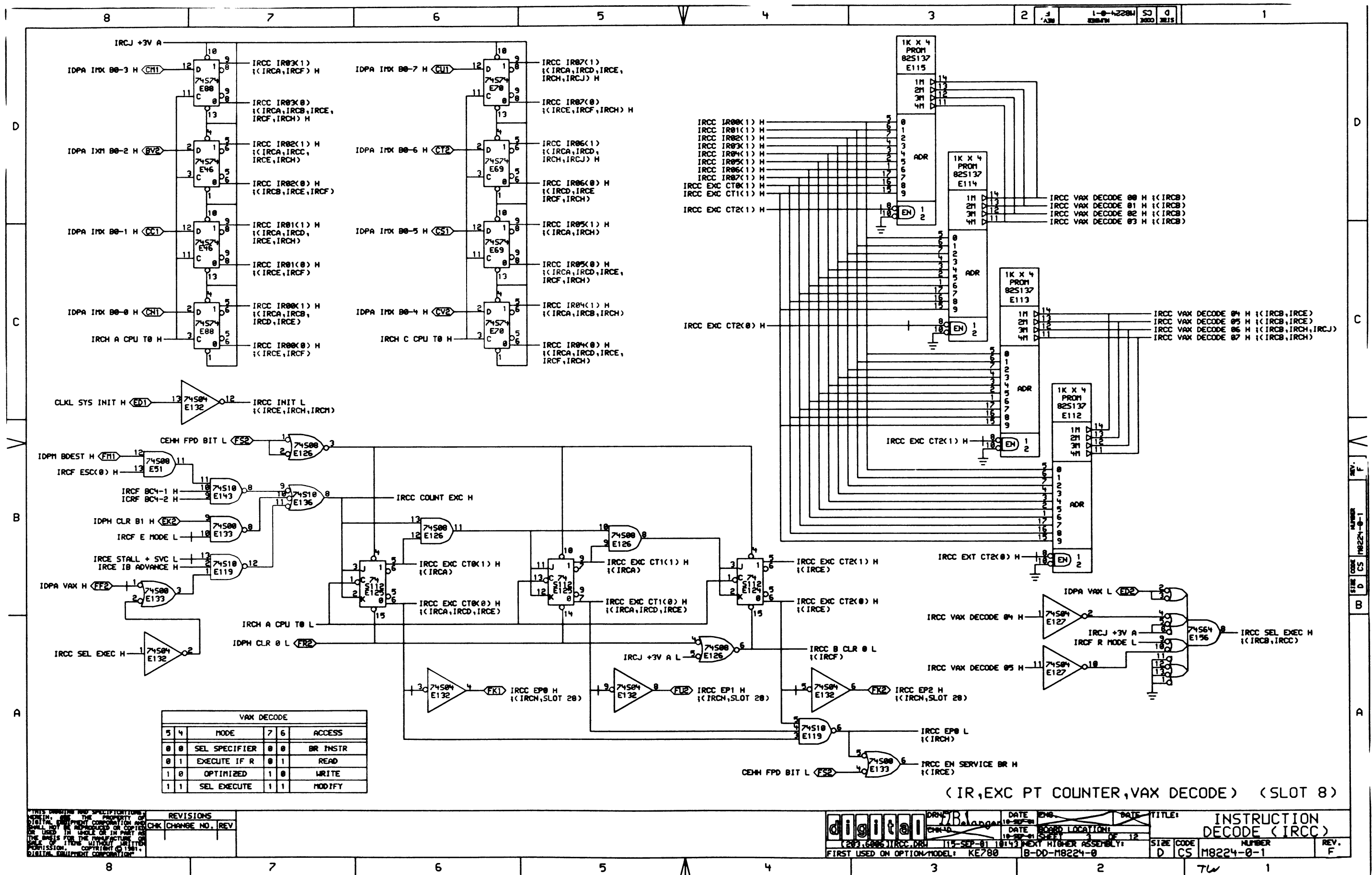
LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
24	24		1910549-00	74S158 MUX 1 OF 2 (QUAD)	8	E16,E29,E33,E35,E36,E71,E72,E76
25	25		1911415-00	10125 ECL TO TTL TRNSLTR	2	E55,E80
26	26		1912867-00	LS298 MUX 1 OF 4,2IN W/S	8	E2,E14,E27,E40,E53,E66,E78,E91
27	27		1913887-00	74S258 MUX 1 OF 2(QUAD)TRI	2	E117,E134
28	28		1913788-00	26S10 TRANSCEIVER,BUS,QUA	8	E1,E13,E26,E39,E52,E65,E77,E90
29	29		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	1	E5
30	30		2113907-00	MM 74C160 COUNTER-DECADE,ASYN	1	E9
31	31		2113908-00	MM 74C161 COUNTER,ASYNCH.BINAR	8	E3,E15,E28,E41,E54,E67,E79,E92
32	32		1910544-00	74S74 FF-D DUAL,EDGE TRIGG	6	E11,E46,E56,E69,E70,E88
33	33		23023B1-00	B1-01	1	E73
34	34		23024B1-00	B1-01	1	E74
35	35		23025B1-00	B1-01	1	E75
36	36		23473F1-00	F1-01	1	E99
37	37		23169F1-00	F1-01	1	E100
38	38		23170F1-00	F1-01	1	E112
39	39		23474F1-00	F1-01	1	E113
40	40		23172F1-00	F1-01	1	E114
41	41		23475F1-00	F1-01	1	E115
42	42		1210711-02	HANDLE,MODULE,HEX	1	
43	43		9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	

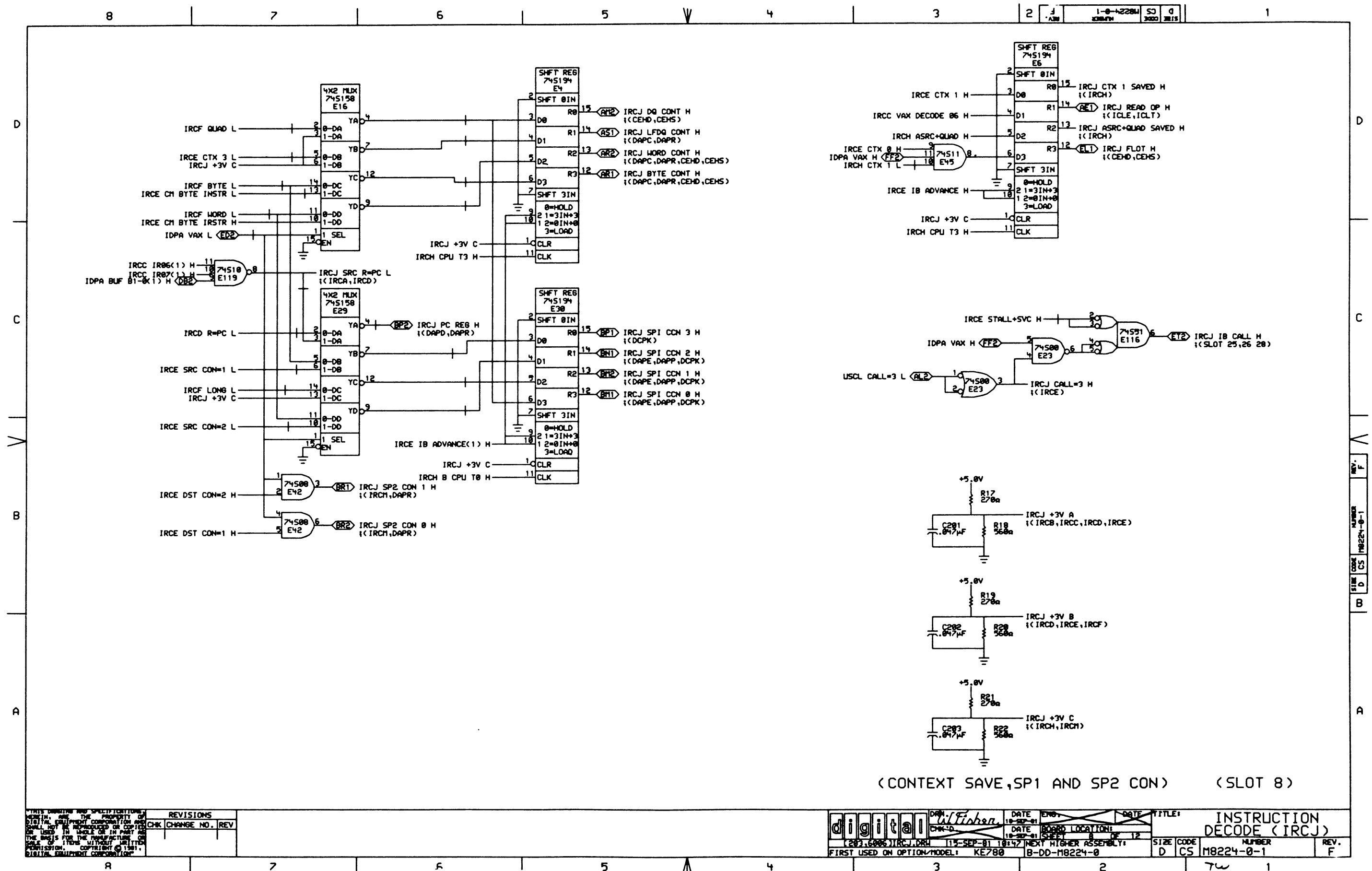
44 NOTE: E102,E153,E157, ARE SPARE I.C. LOCATIONS;

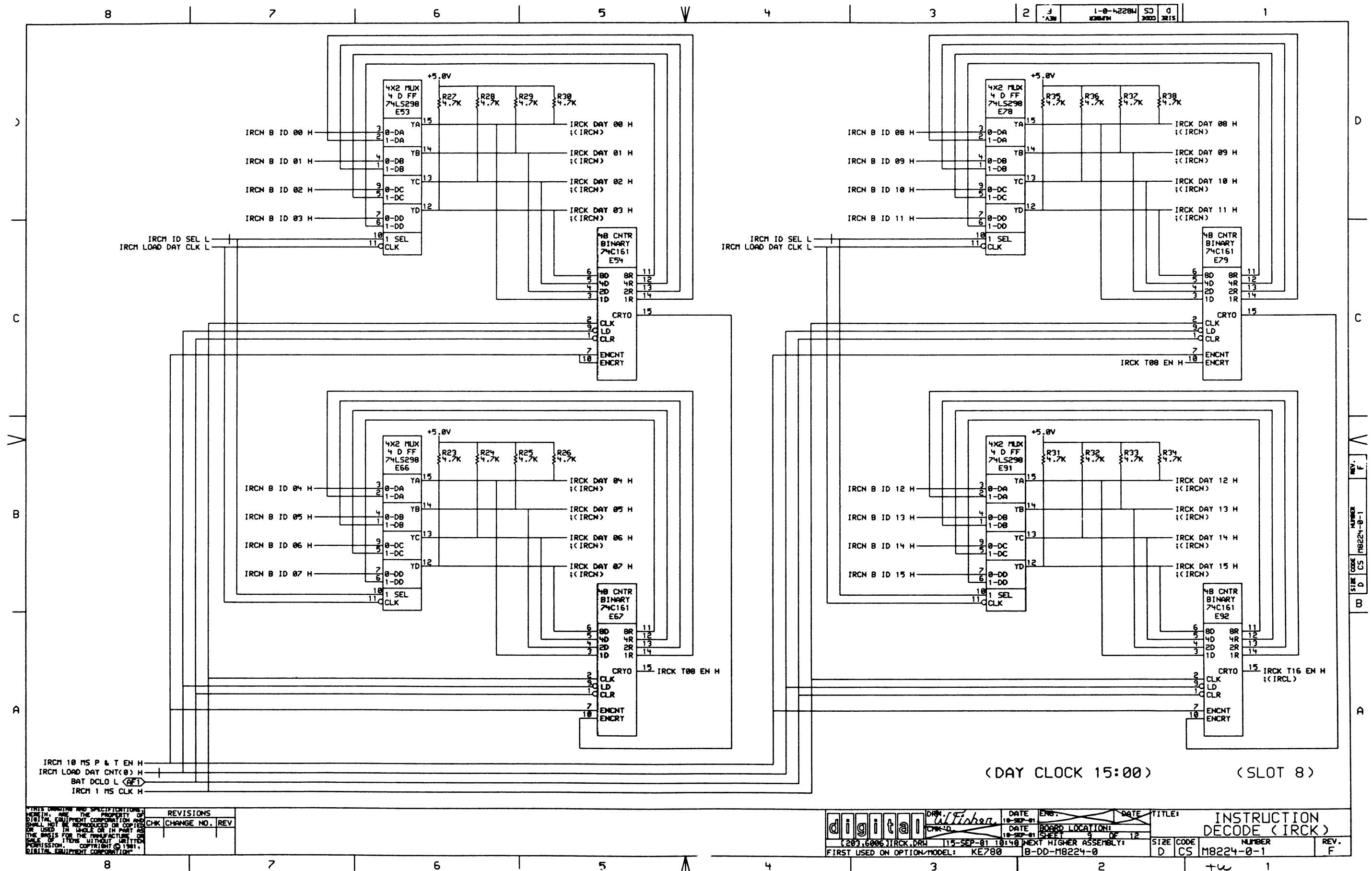
D	I	G	I	T	A	L	TITLE	INSTRUCTION REGISTER & CLOCK	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	FL	M8224-0-0	D

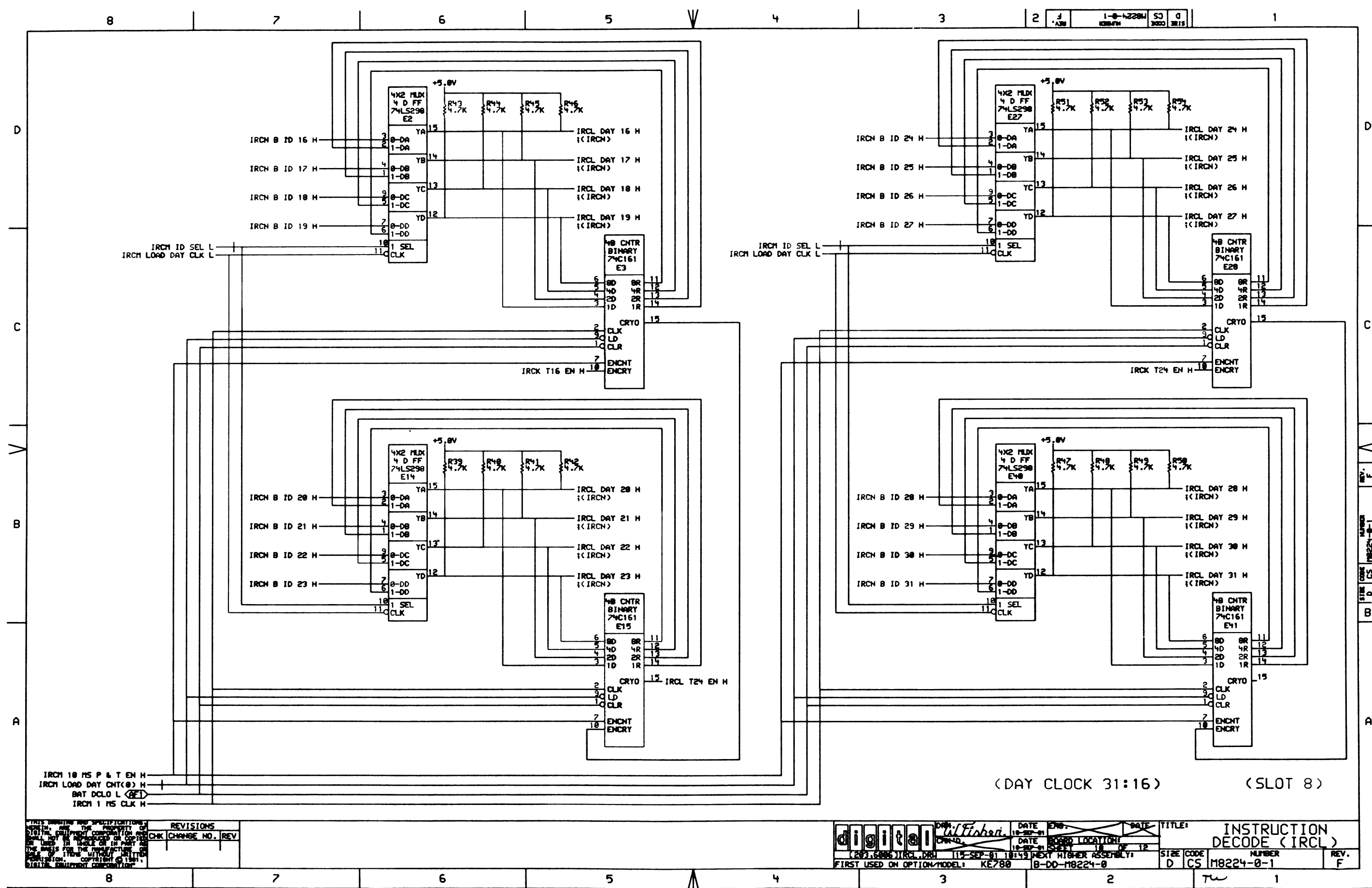
TW











IRCH 10 MS P & T EN H
IRCH LOAD DAY CNT(0) H
BAT DCLO L (BT)
IRCH 1 MS CLK H

(DAY CLOCK 31:16) (SLOT 8)

REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE	ENG.	DATE	TITLE
	11-SEP-01	10143	11-SEP-01	INSTRUCTION DECODE (IRCL)
FIRST USED ON OPTION/MODEL: KE780		B-DD-M8224-0		SIZE CODE NUMBER REV.
				D CS M8224-0-1 F

8

7

6

5

4

3

2

1

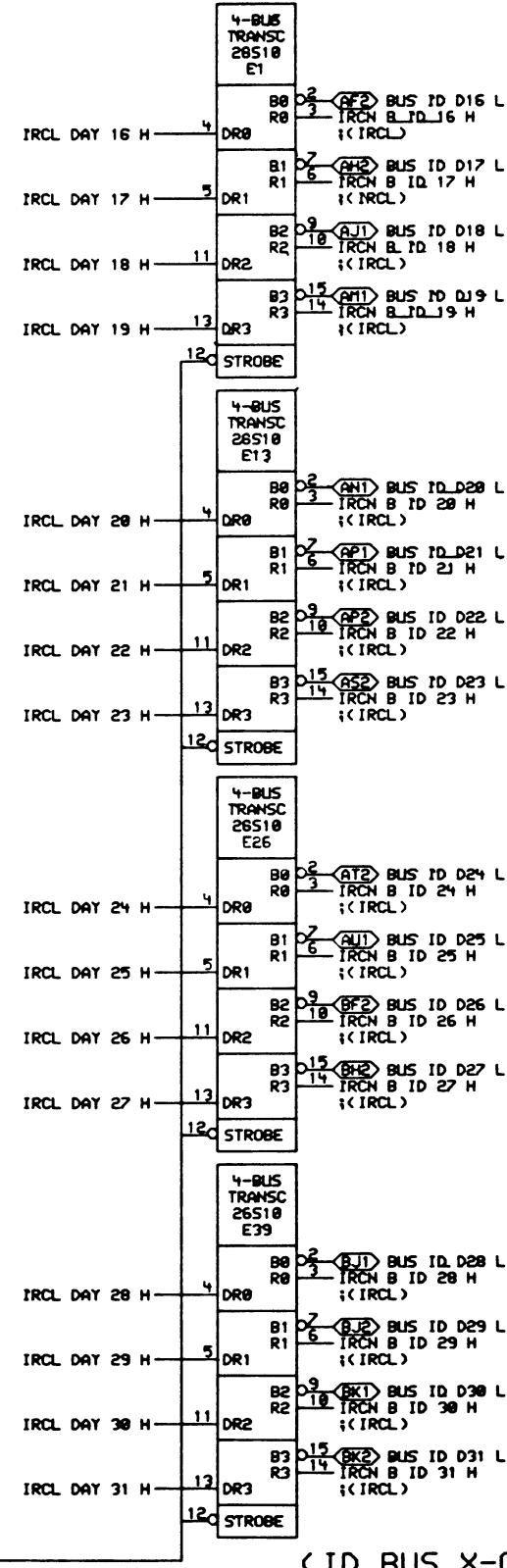
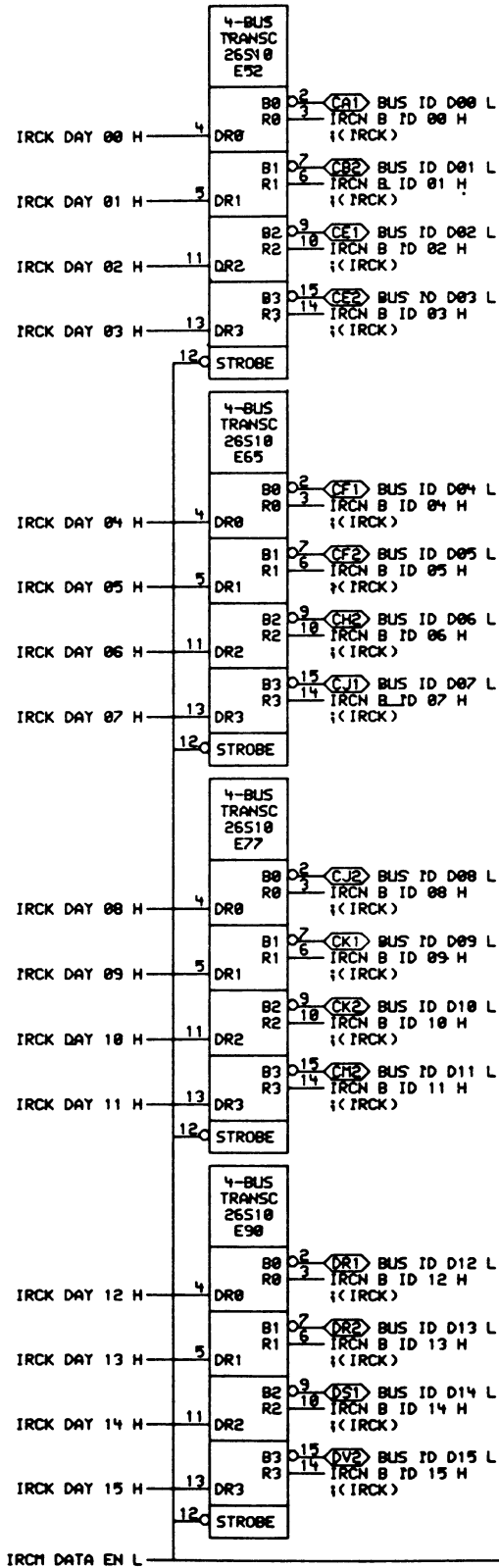
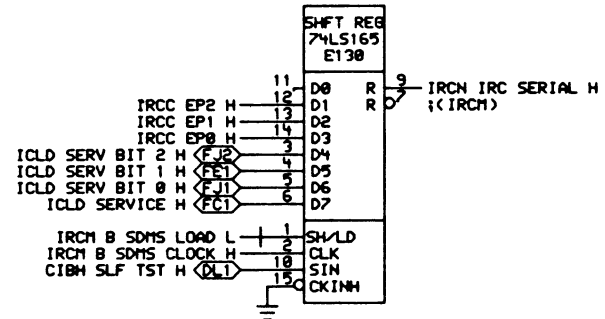
1-0-1228M

SC

d

115

1



< ID BUS X-CEIVERS > < SLOT 8 >

THIS DRAWING AND SPECIFICATIONS
ARE THE PROPERTY OF
DIGITAL EQUIPMENT CORPORATION AND
SHALL NOT BE REPRODUCED OR COPIED
OR USED IN ANY MANNER
OR FOR ANY PURPOSE
WITHOUT WRITTEN
PERMISSION. COPYRIGHT © 1981
DIGITAL EQUIPMENT CORPORATION

REVISIONS
CHK CHANGE NO. REV

digital
1283,6006 JIRCN.DRW
FIRST USED ON OPTION MODEL KE780

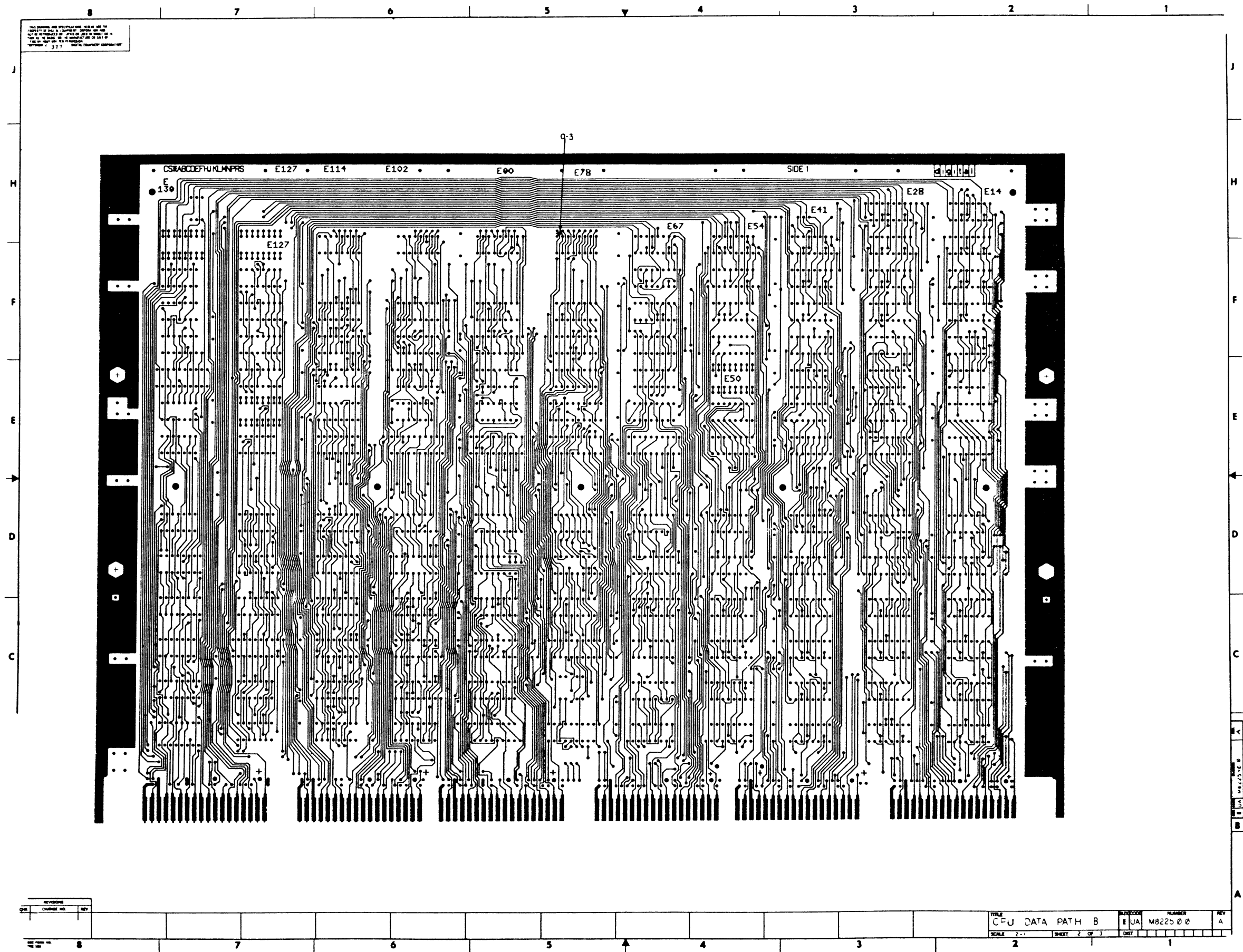
DATE 10-SEP-81
DATE 11-SEP-81 10:52
NEXT HIGHER ASSEMBLY: B-DD-M8224-0

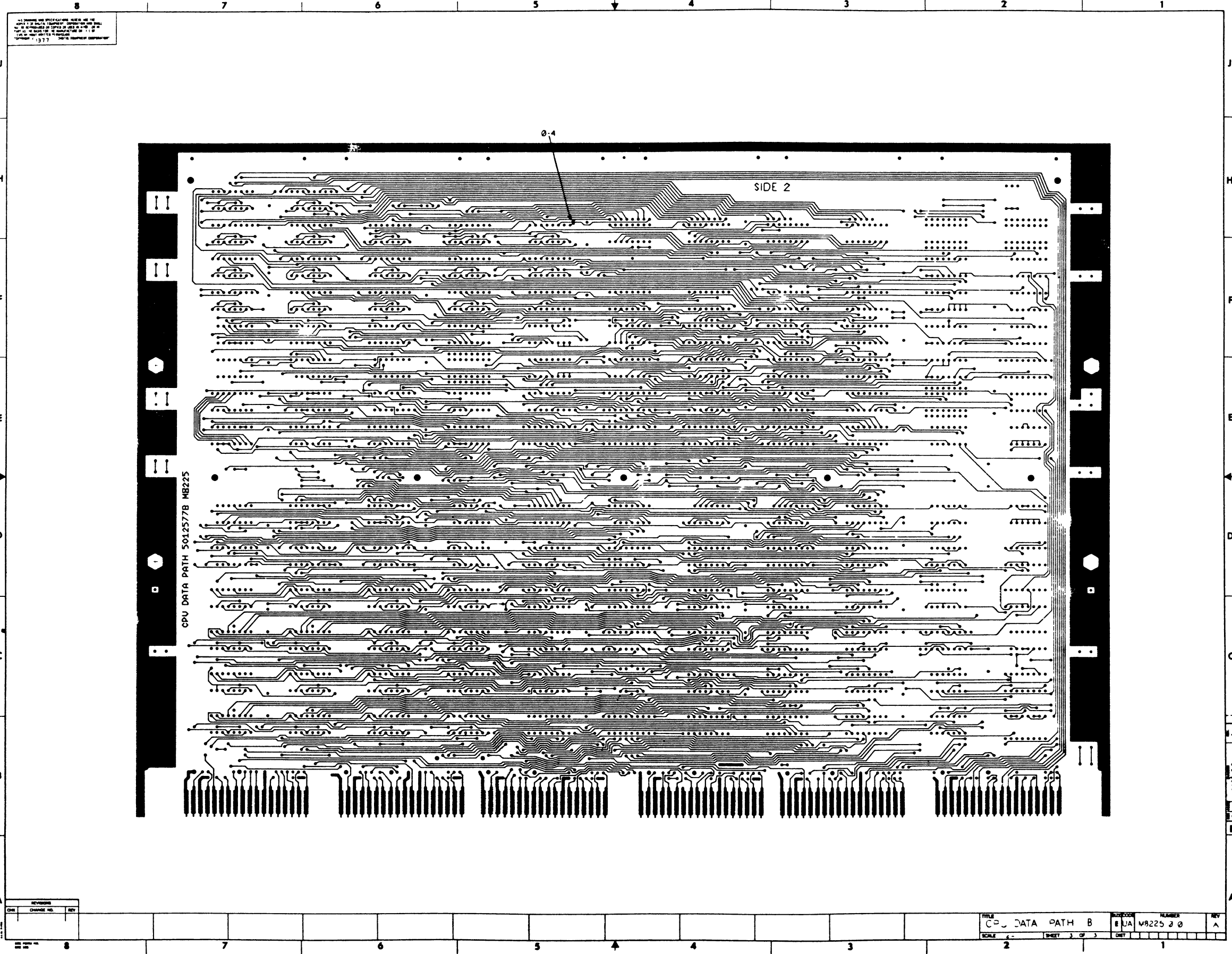
ENG. *W. Fisher*
CHK. *W. Fisher*

DATE 10-SEP-81
DATE 10-SEP-81
SHEET 12 OF 12

TITLE: INSTRUCTION
DECODE (IRCN)

SIZE CODE D CS
NUMBER M8224-0-1
REV. F

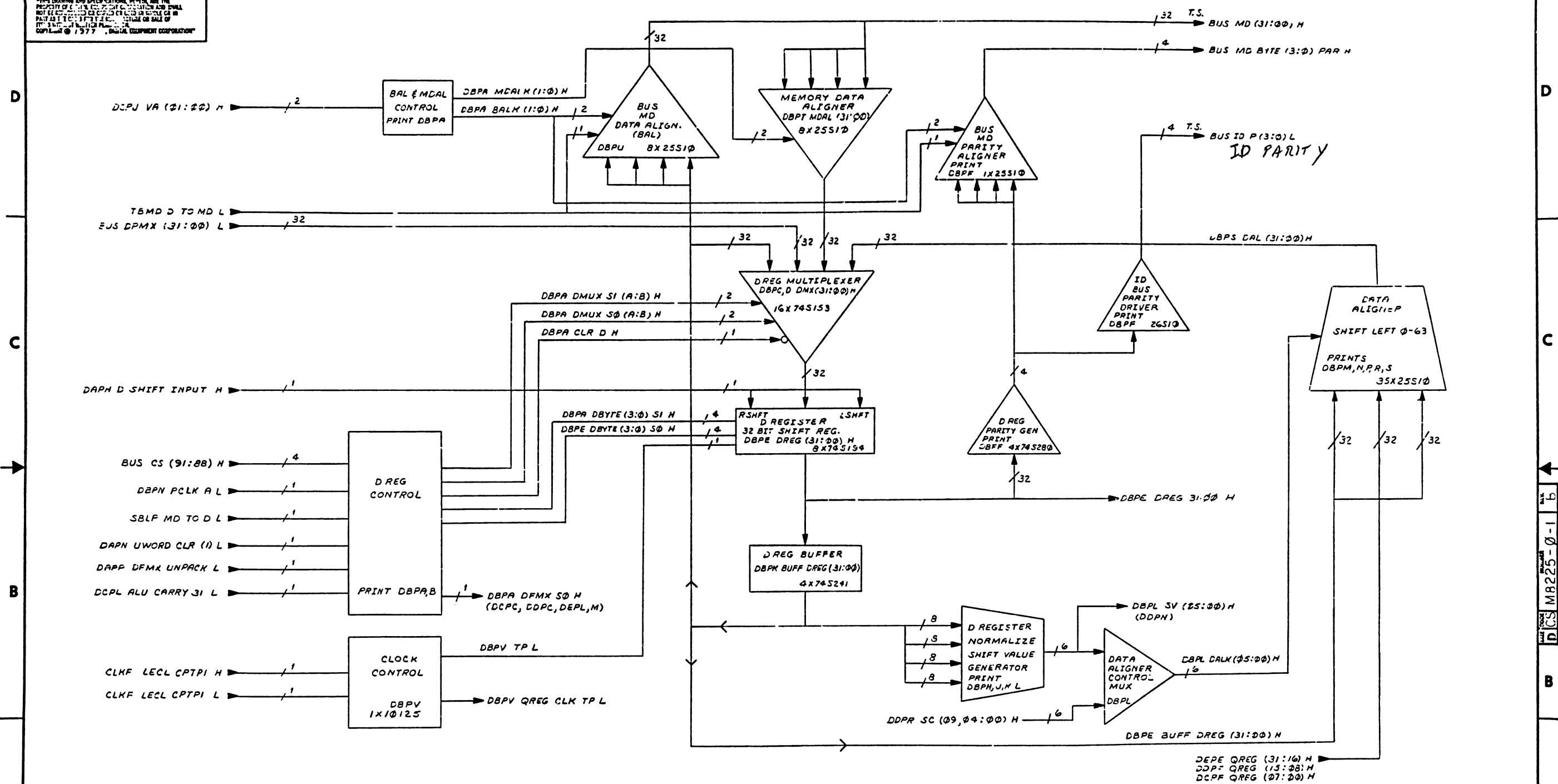




DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES: MS 104840 ETCH REV B CS REV A				
MADE BY DATE		CHECKED <i>F. Smart</i> DATE <i>6-1-77</i>		SECTION		M8225-0-0														
ENG <i>E. Anton</i> DATE <i>6-9-77</i>		PROD <i>Mike Tuller</i> DATE <i>6-1-77</i>		ISSUED SECTION																
ITEM NO.	DRAWING NO	PART NO.	DESCRIPTION															REF DESIGNATION		
1		10-12084-1	CAPACITOR, 8UF	7														C1-C7		
2		10-12704	CAPACITOR, .047UF	37														C8-C44		
3		13-00295	RESISTOR, 330 , 1/4W, 5%	5														R1,R3,R5,R7,R9		
4		13-01775	RESISTOR, 820 , 1/4W, 5%	4														R2,R4,R6,R8		
5		13-00247	RESISTOR, 120 , 1/4W, 5%	2														R12,R14		
6		13-00250	RESISTOR, 150 , 1/4W, 5%	2														R11,R13		
7		13-01424	RESISTOR, 680 , 1/4W, 5%	1														R10		
8		19-10532	I.C. DEC 74S00	2														E115,136		
9		19-10534	I.C. DEC 74S04	9														E5,E6,E19,E33,E46,E47,E98,E116,E121		
10		19-12389	I.C. DEC 74S08	4														E23,E119,E120,E134		
11		19-10536	I.C. DEC 74S10	1														E10		
12		19-10537	I.C. DEC 74S11	1														E37		
13		19-10539	I.C. DEC 74S20	2														E9,E36		
14		19-11712	I.C. DEC 74S51	2														E129,E137		
15		19-10542	I.C. DEC 74S64	3														E22,E132,E133		
16		19-12796	I.C. DEC 74148	4														E8,E21,E35,E49		
17		19-11675	I.C. DEC 74S138	3														E24,E130,E131		
18		19-10956	I.C. DEC 74S151	4														E123-E126		
19		19-10547	I.C. DEC 74S153	19														E38,E51,E57,E58,E69,E70,E79-E82,E86, E91-E94,E103-E106		
20		19-10549	I.C. DEC 74S158	2														E62,E118		
E.C.O. NO.																				
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE CPU DATA PATH B				ASSY NO. E-VA-M8225-0-0				SIZE B	CODE PL	NUMBER M8225-0-0		REV. A				
								SHEET 1 OF 2				INSERTION PARTS LIST DATA BASE REV								

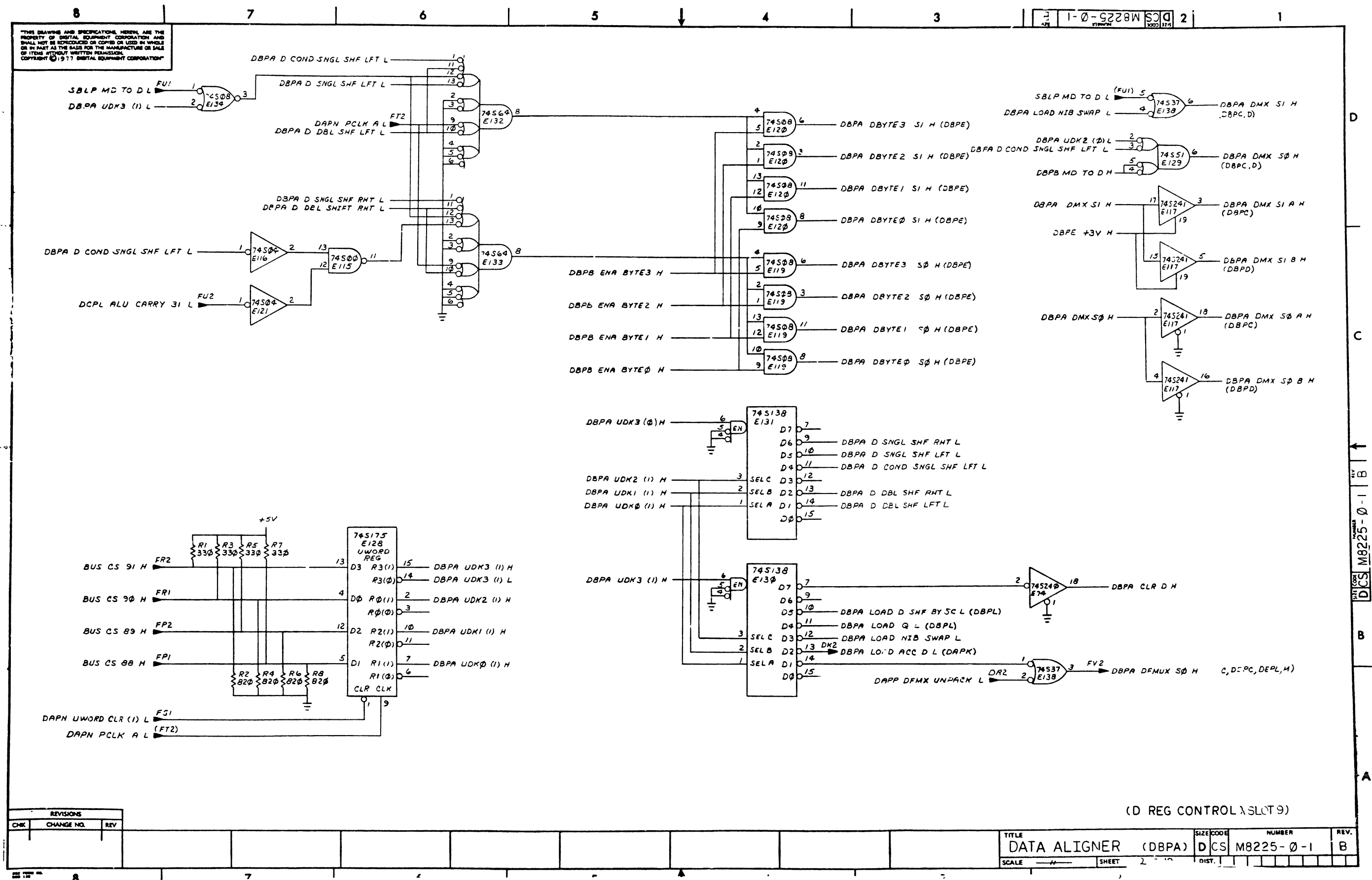
DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:					
MADE BY TRIAD DATE 22 Nov. 77		CHECKED F. Smart DATE 6-1-77		SECTION														MS 104840 ETCH REV B CS REV A			
ENG E. Anton DATE 6-9-77		PROD Mike Tuller DATE 6-1-77		ISSUED SECTION																	
ITEM NO.		DRAWING NO.		PART NO.														DESCRIPTION		REF DESIGNATION	
21				19-10957		I.C. DEC 74S175		1						E128							
22				19-10552		I.C. DEC 74S194		8						E59,E71,E83,E95,E107-E110							
23				19-13493		I.C. DEC 74S241		5						E61,E73,E85,E97,E117							
24				19-11573		I.C. DEC 74S280		4						E60,E72,E84,E96							
25				19-13670		I.C. DEC 74S373		1						E135							
26				19-12693		I.C. DEC 25S10		52						E1-E4,E11-E18,E25-E32,E39-E45,E52-E54, E56,E63-E67,E75-E78,E87-E90,E99-E102, E111-E114							
27				19-13788		I.C. DEC 26S10		1						E55							
28				19-11415		I.C. DEC 10125		1						E68							
29				19-11983		I.C. DEC 74S133		4						E7,E20,E34,E48							
30				19-13462		I.C. DEC 74S240		1						E74							
31				19-12746		I.C. DEC 74S37		1						E138							
32				1210711-2		HEX HANDLE ASSY		1													
33				9003024-01		EYELET		12													
34		E-MD-5012577-0-0		5012577		ETCHED BOARD															
35						SPARES								E50,E122,E127,E139							
E.C.O. NO.																					
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION						TITLE CPU DATA PATH B				ASSY NO. E-UA-M8225-0-0				SIZE B		CODE PL		NUMBER M8225-0-0		REV A	
						SHEET 2 OF 2				INSERTION PARTS LIST DATA BASE REV											

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM DIGITAL EQUIPMENT CORPORATION.

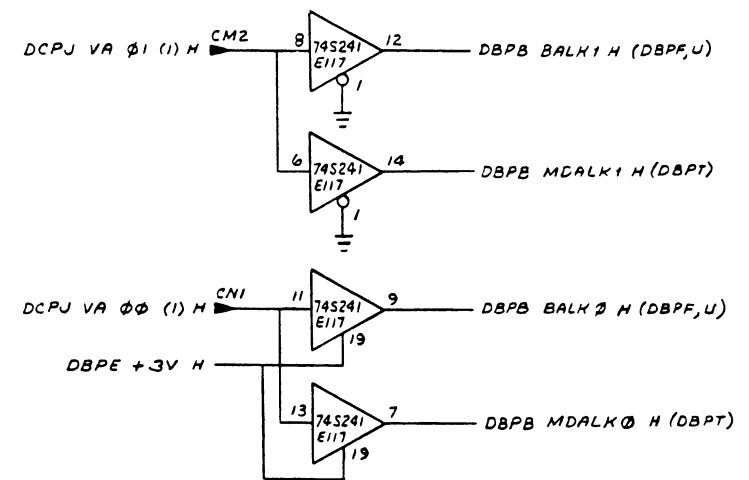
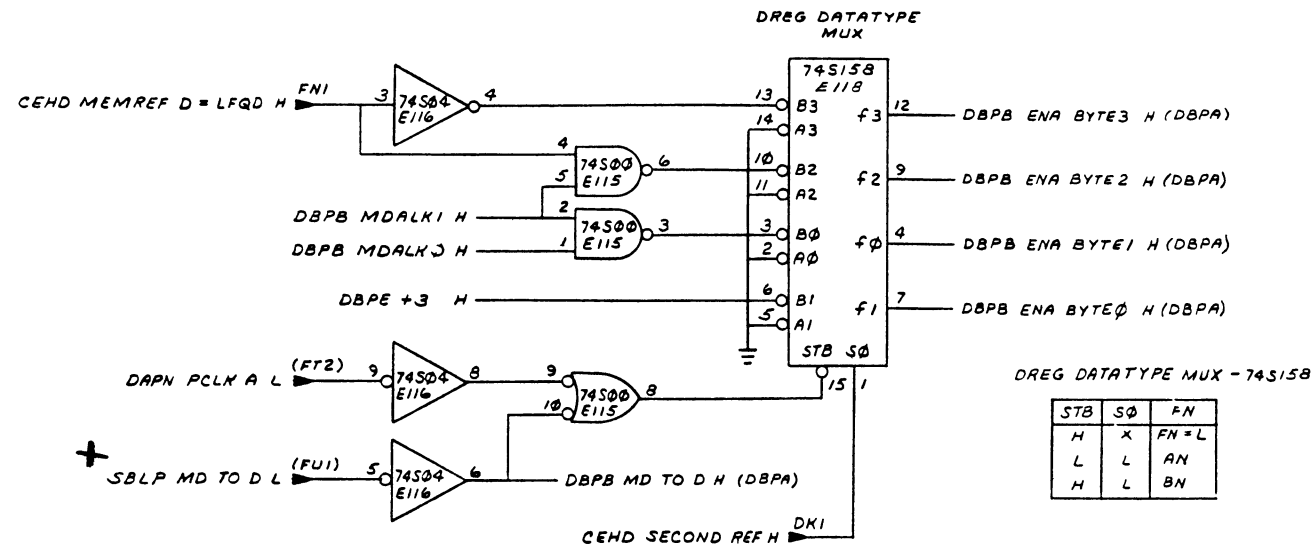


(BLOCK DIAGRAM XSL0T9)

DRN	J. J. Lynch	3-24-77	FIRST USED ON	4101101
CHK'D	J. J. Lynch	5-1-77	TITLE	DATA ALIGNER
ENG.	E. ANTON	5-1-77	SIZE	D CS
PROJ. ENGR.	E. ANTON	5-1-77	NUMBER	M8225-0-1
PROD.	Simon	6/1/77	REV.	B
NEXT HIGHER ASSY.				
SCALE	1:1			
SHEET	1 OF 19			



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



D REGISTER WRITE ENABLE TRUTH TABLE

MDBAL		DATATYPE	SEC. REF	D REG ENA BYTE (3:0) = 1 = H			
VA01	VA00			BYTE 3	BYTE 2	BYTE 1	BYTE 0
L	L	L	L	H	H	H	H
L	H	L	L	H	H	H	H
		H	L	H	H	H	H
		H	H	H	L	L	L
H	L	L	L	H	H	H	H
		H	L	H	H	H	H
		H	H	H	H	L	L
H	H	L	L	H	H	H	H
H	H	H	L	H	H	H	H
H	H	H	H	H	H	H	L

UDK CONTROL TRUTH TABLE

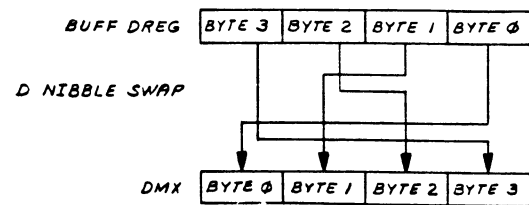
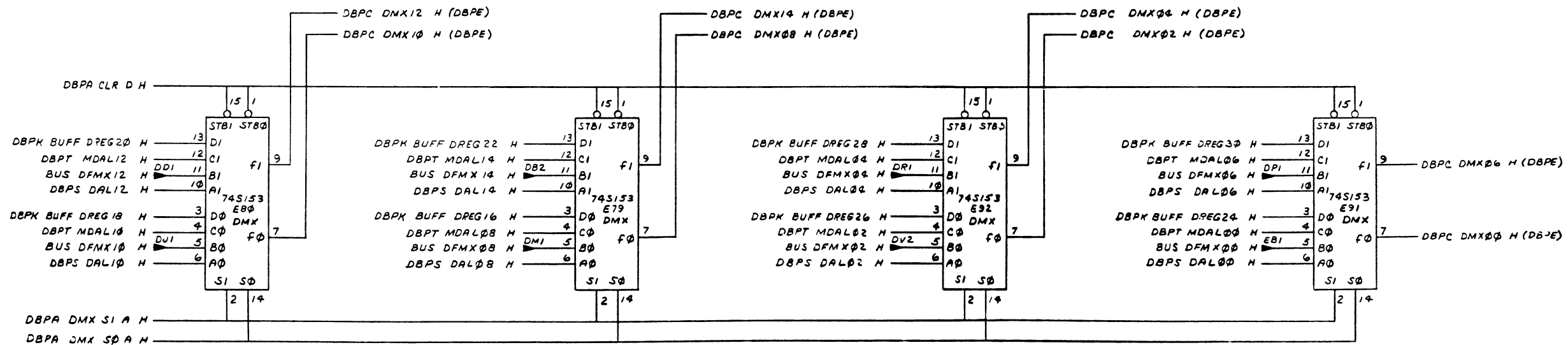
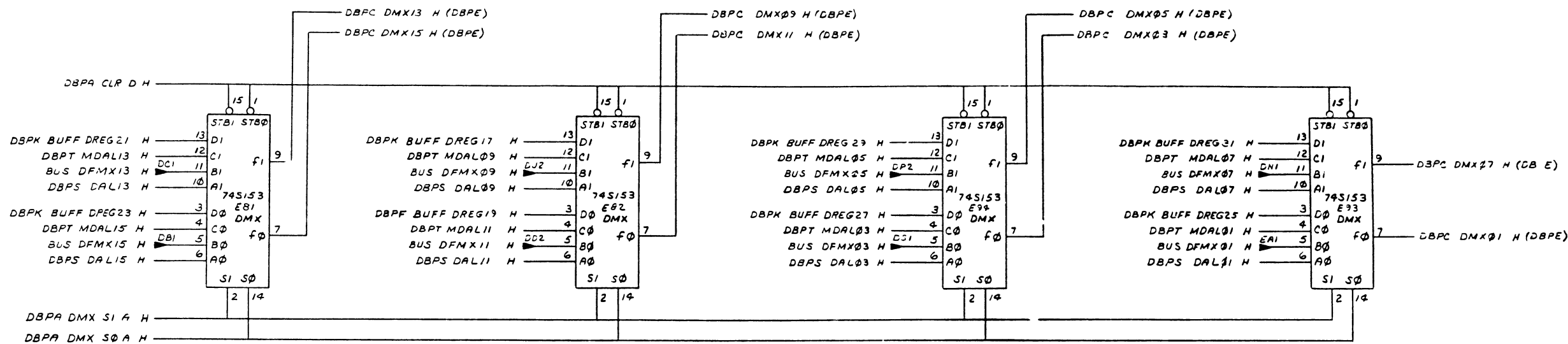
UWORD HEX	WDH UWORD				DMX CONTROL		DREG CONTROL		FUNCTION
	3	2	1	0	S1	S0	DATA SOURCE	S1 S0	
0	L	L	L	L	X	X	—	L L	NO OPERATION.
1	L	L	L	H	X	X	—	H L	DOUBLE SHIFT LEFT.
2	L	L	H	L	X	X	—	L H	DOUBLE SHIFT RIGHT.
3	L	L	H	H	X	X	—	L L	RESERVED.
4	L	H	L	L	L	H	DFMX	H L/H	CONDITIONAL WITH ALU CARRY, ALU CARRY 31 = 1 = L. ← SINGLE SHIFT LFT IF .NOT. ALU CARRY; ELSE. ← LOAD DFMX (INTEGER).
5	L	H	L	H	X	X	—	H L	SINGLE SHIFT LEFT.
6	L	H	H	L	X	X	—	L H	SINGLE SHIFT RIGHT.
7	L	H	H	H	X	X	—	L L	RESERVED.
8	H	L	L	L	L	H	DFMX	H H	LOAD DFMX (INTEGER).
9	H	L	L	H	L	H	DFMX	H H	LOAD DFMX (UNPACKED FLOAT).
A	H	L	H	L	L	H	ACCELERATOR	H H	LOAD ACC DATA.
B	H	L	H	H	H	H	BUFF, DREG	H H	LOAD D NIBBLE SWAP.
C	H	H	L	L	L	L	DAL	H H	LOAD Q REG [DAL SHIFTED BY 32].
D	H	H	L	H	L	L	DAL	H H	LOAD D [SHIFTED BY SC (09, 04:00)].
E	H	H	H	L	L	L	DAL	H H	LOAD D [SHIFTED BY SNF VAL].
F	H	H	H	H	X	X	—	H H	LOAD ZEROES (DISABLE DMX STROBE).

(DREG DATATYPE X SLOT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE	CODE	NUMBER	REV.
DATA ALIGNER (DBPB)		D	CS	M8225-0-1	B
SCALE	SHEET	DIST.			
1" = 1'	3 OF 19				

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



DMX - 74S153

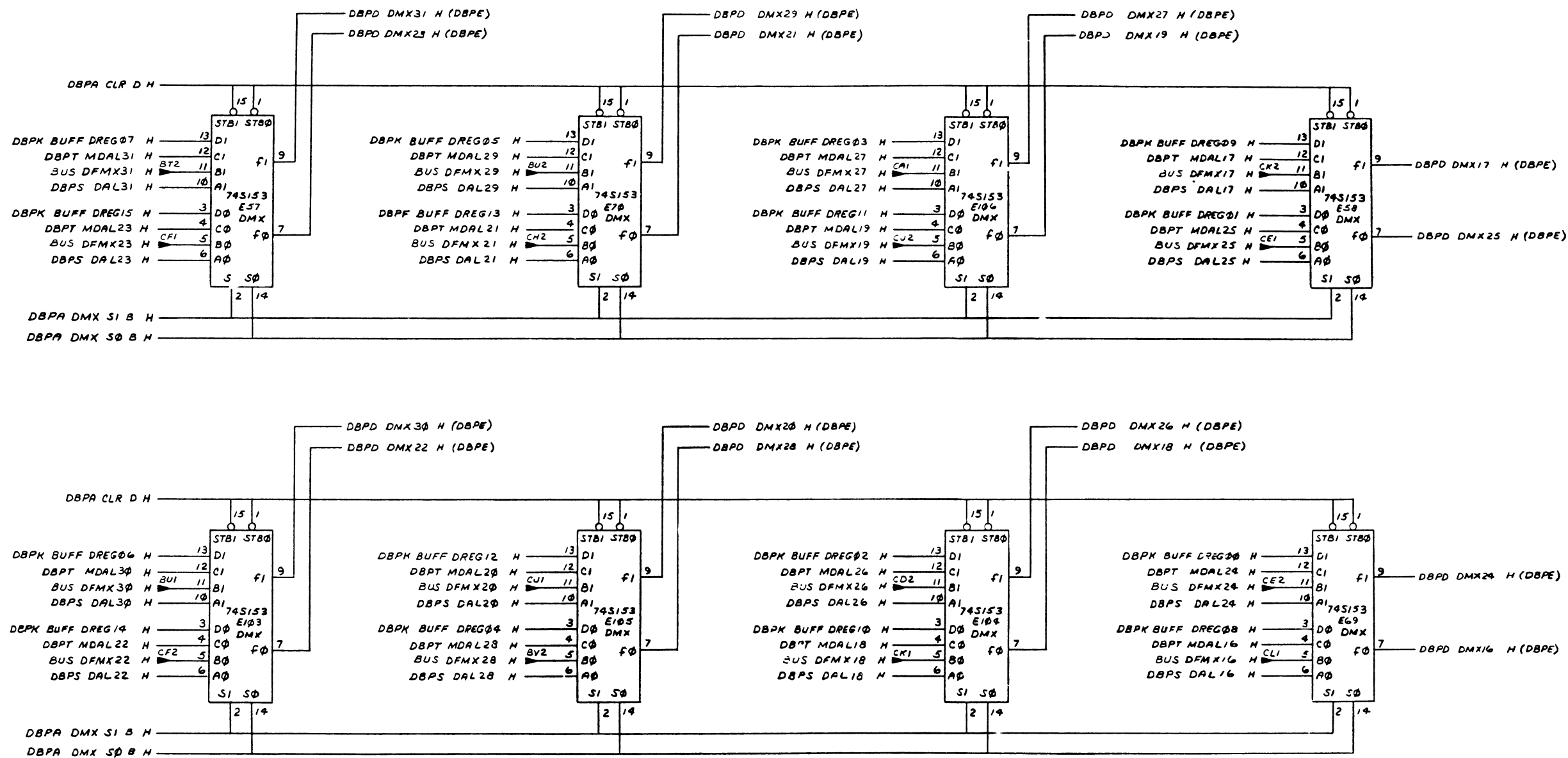
STBI, 0	SI	S0	FN
H	X	X	FN = L
L	L	L	DAL
L	L	H	BUS DFMX
L	H	L	MDAL
L	H	H	D SWAP

(DMX) (SLOT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE/CODE	NUMBER	REV.
DATA ALIGNER (DBPC)		D CS	M8225-0-1	B
SCALE	SHEET	4 OF 19	DIST.	

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



DMX - 74S153

STB1, 0	S1	S0	FUNCT
H	X	X	FN = L
L	L	L	DAL
L	L	H	BUS DFMX
L	H	L	MDAL
L	H	H	D NIBBLE SWAP

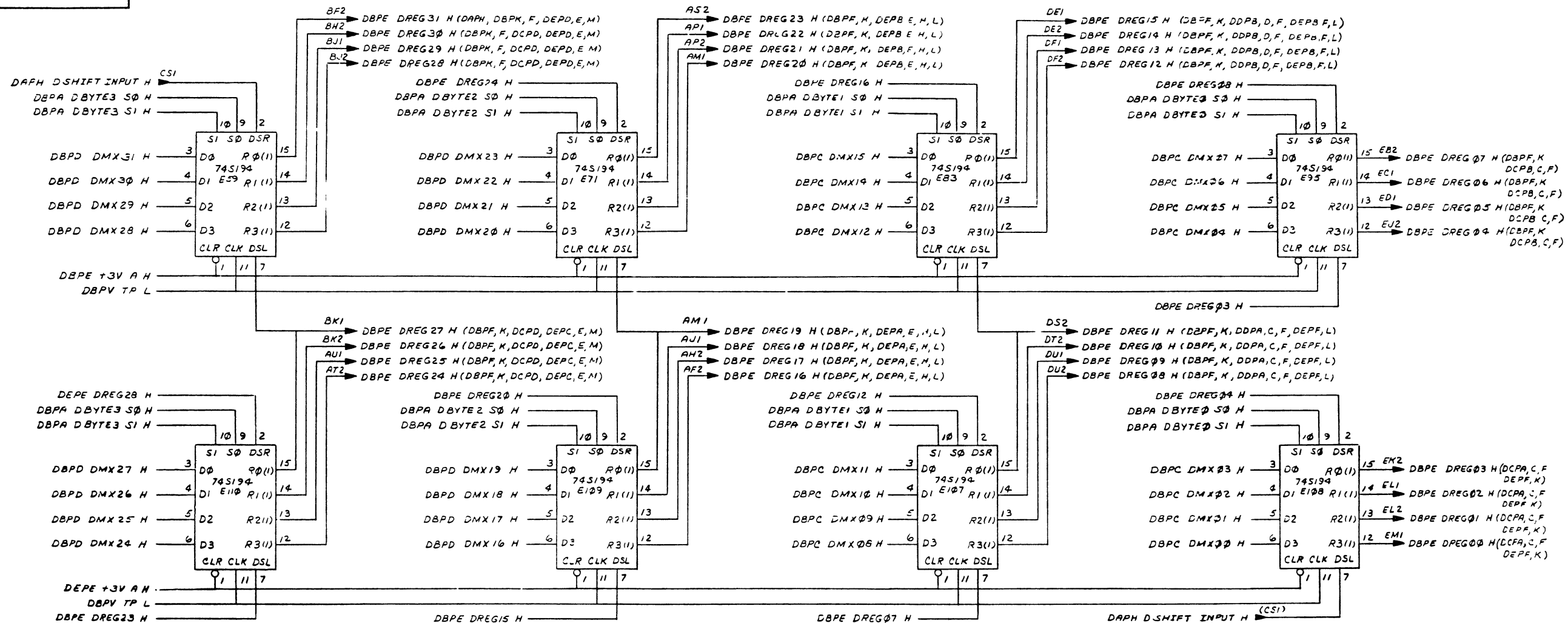
(DMX) (SLOT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
DATA ALIGNER (DBPD)	D CS	M8225-0-1	B
SCALE	SHEET	5 OF 19	DIST.

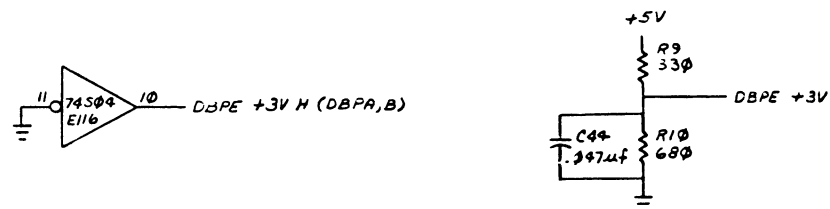
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-5228W [50] 2



D REG 74S194 TRUTH TABLE

SI	S0	FUNCTION	Q3	Q2	Q1	Q0
L	L	NO OPERATION	Q3	Q2	Q1	Q0
L	H	SHIFT RIGHT	RSHF	Q3	Q2	Q1
H	L	SHIFT LEFT	Q2	Q1	Q0	LSHF
H	H	LOAD	D3	D2	D1	D0



(DREG 31:00) (SLOT 9)

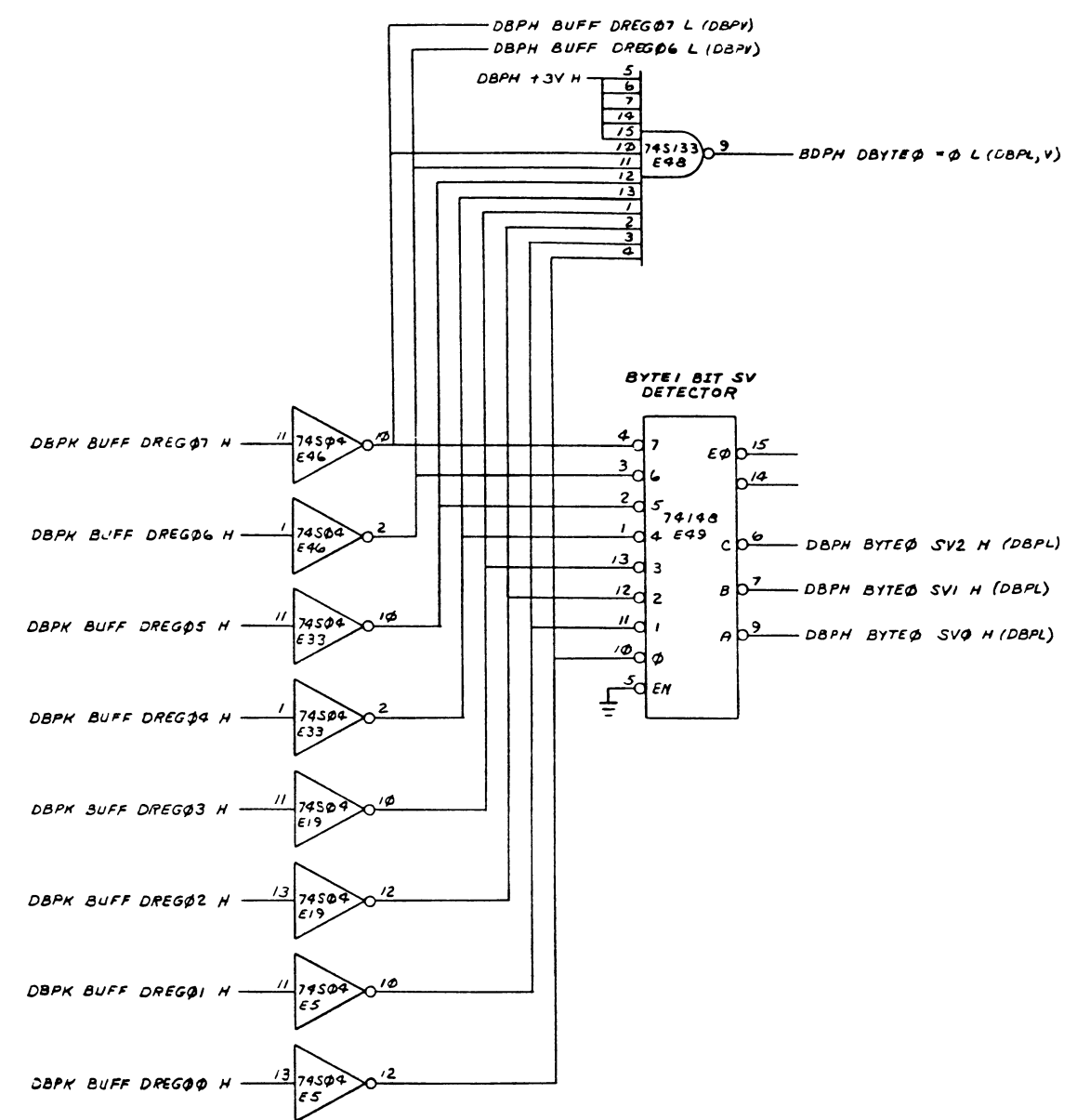
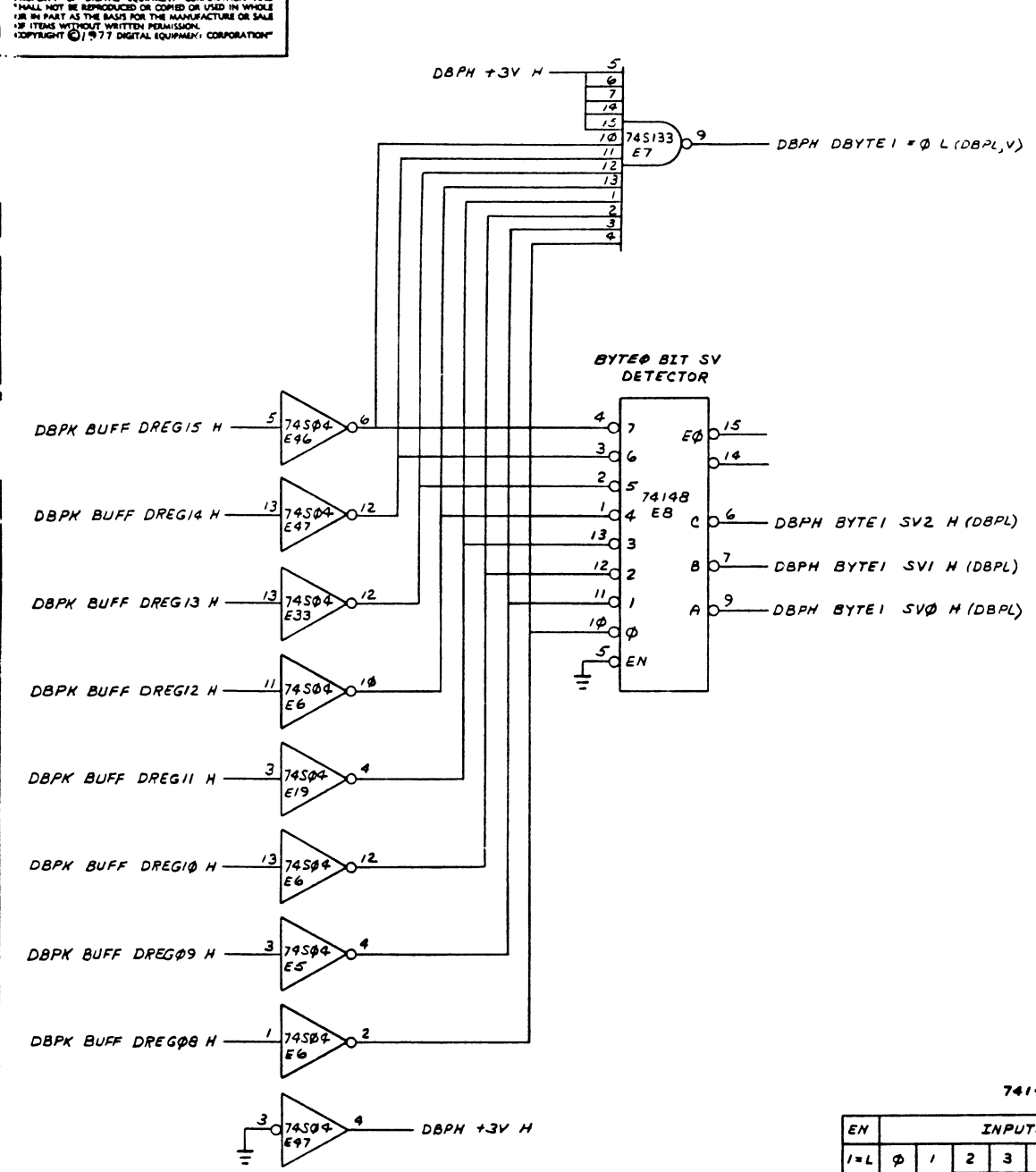
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
DATA ALIGNER (DBPE)	D CS	M8225-0-1	B
SCALE	SHEET	6 OF 19	DIST.

EN I=L	(I=H)		OUTPUT (I=N)			
	S1	S0	Y3	Y2	Y1	Y0
H	X	X	L	L	L	L
L	L	L	I3	I2	I1	I0
L	L	H	I2	I1	I0	I-1
L	H	L	I1	I0	I-1	I-2
L	H	H	I0	I-1	I-2	I-3

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ANY ITEMS WITHOUT WRITTEN PERMISSION.
 COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-9228W 8 2



74148 TRUTH TABLE

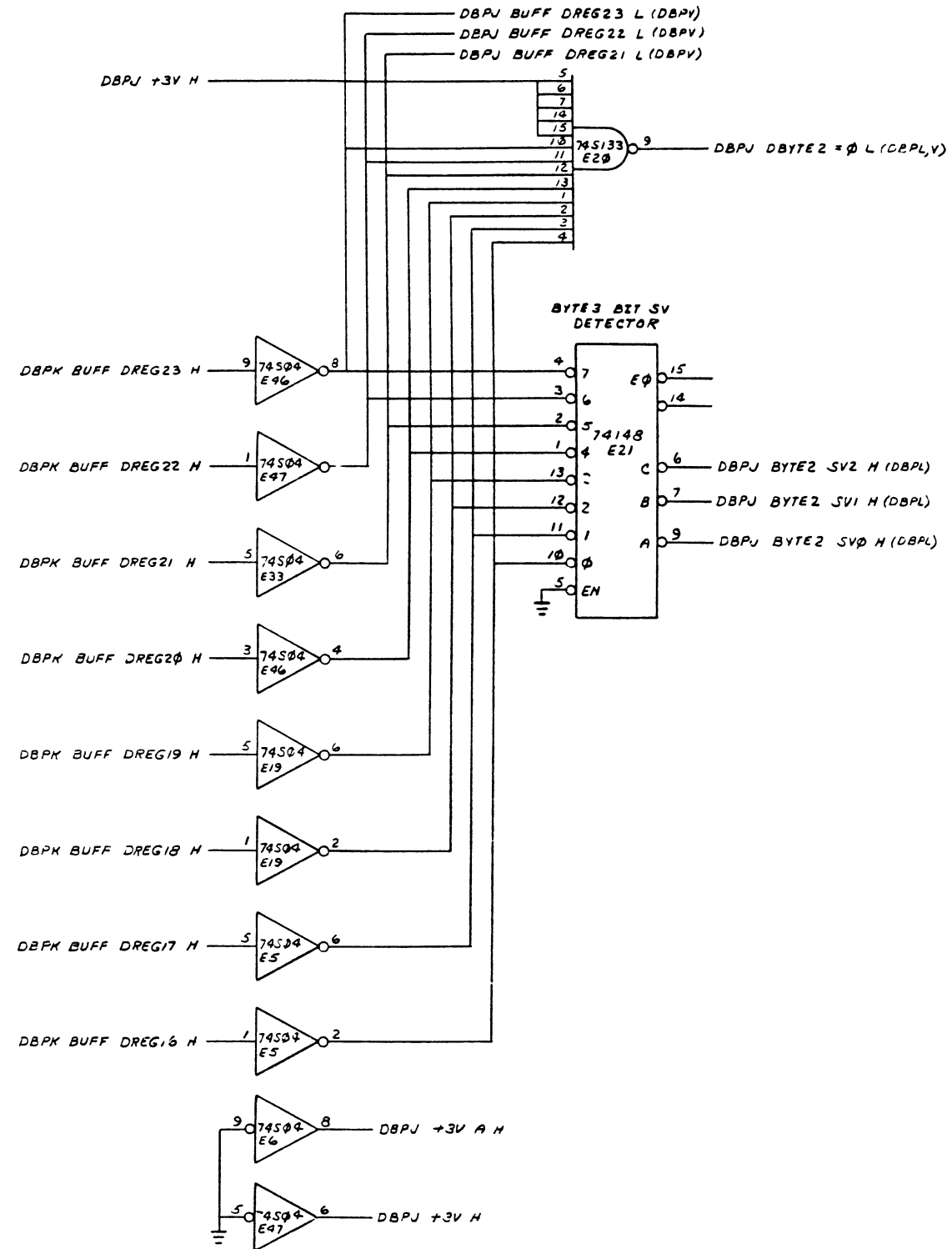
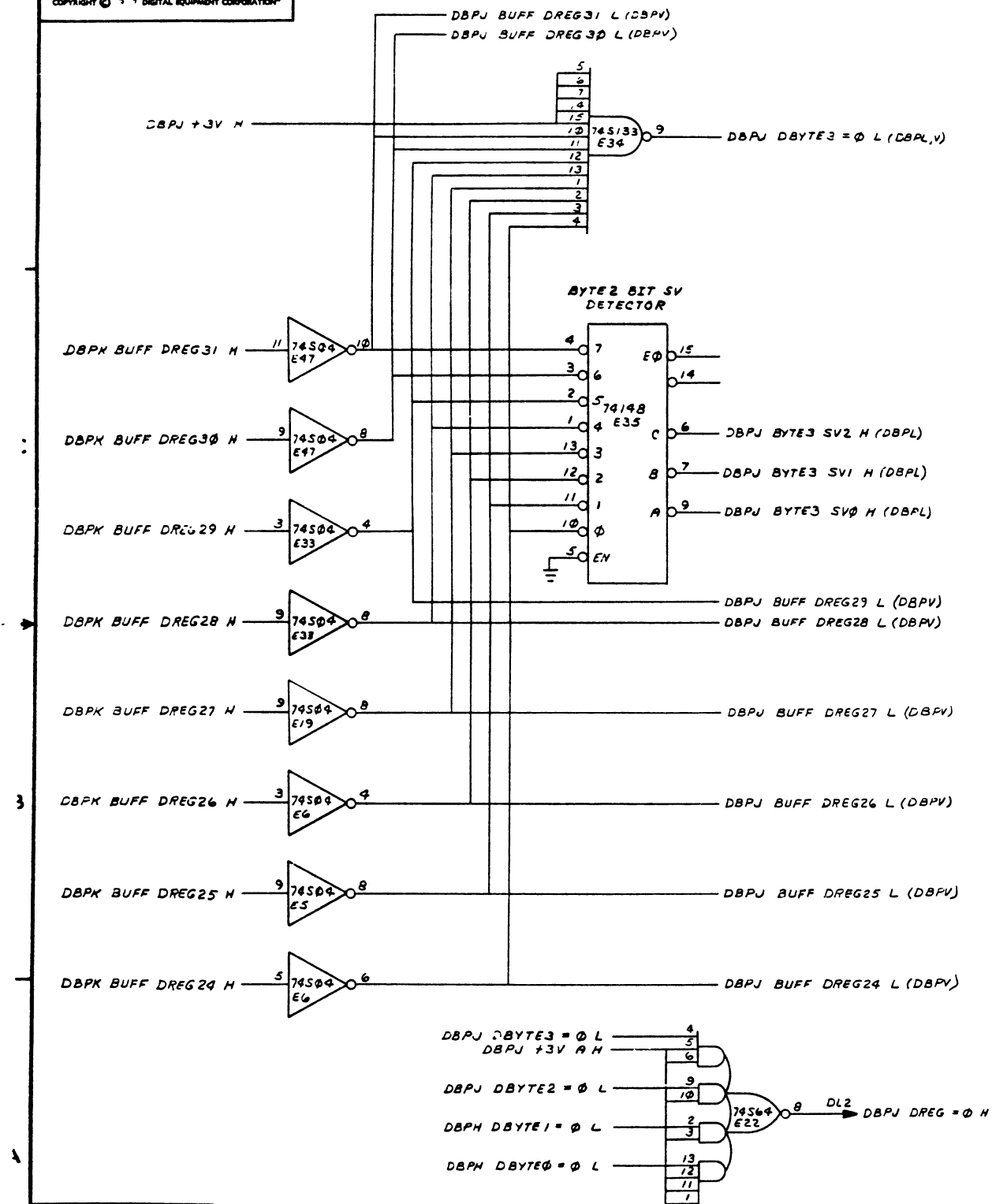
EN	INPUTS								OUTPUT			
I=L	0	1	2	3	4	5	6	7	2	1	0	BIT SV
H	X	X	X	X	X	X	X	X	L	L	L	0
L	X	X	X	X	X	X	X	L	L	L	L	0
L	X	X	X	X	X	X	L	H	L	L	H	1
L	X	X	X	X	X	L	H	H	L	H	L	2
L	X	X	X	X	L	H	H	H	L	H	H	3
L	X	X	X	L	H	H	H	H	L	L	L	4
L	X	X	L	H	H	H	H	H	L	H	H	5
L	X	L	H	H	H	H	H	H	H	L	H	6
L	L	H	H	H	H	H	H	H	H	H	H	7

(BYTES 1 AND 0 BIT SV DETECTOR X SLOT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE DATA ALIGNER (DBPH)	SIZE CODE D CS	NUMBER M8225-0-1	REV. B
SCALE 1"=16"	SHEET 8 OF 19	DIST.	

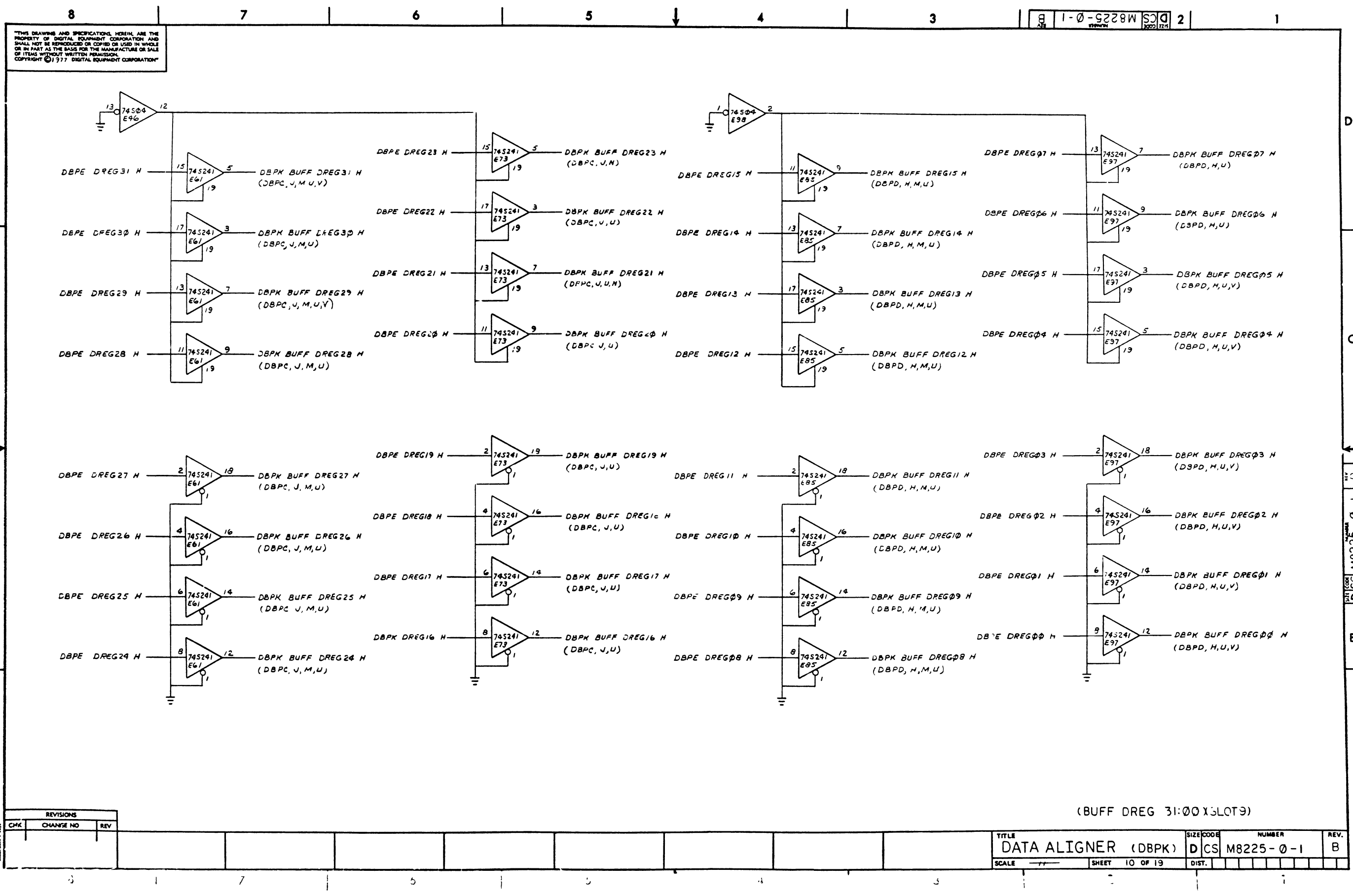
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1971 DIGITAL EQUIPMENT CORPORATION



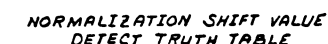
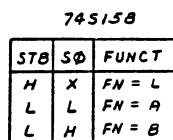
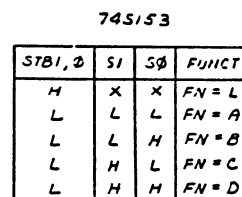
(BYTES 3 AND 2 BIT SV DETECTOR)
(SLOT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE	NUMBER	REV.
DATA ALIGNER (DBPJ)		DCS	M8225-0-1	B
SCALE	SHEET	DIST.	9 OF 19	



REVISIONS							TITLE		SIZE	CODE	NUMBER		REV.
CHK	CHANGE NO	REV					DATA ALIGNER (DBPK)		D	CS	M8225-0-1		B
							SCALE		SHEET 10 OF 19		DIST.		

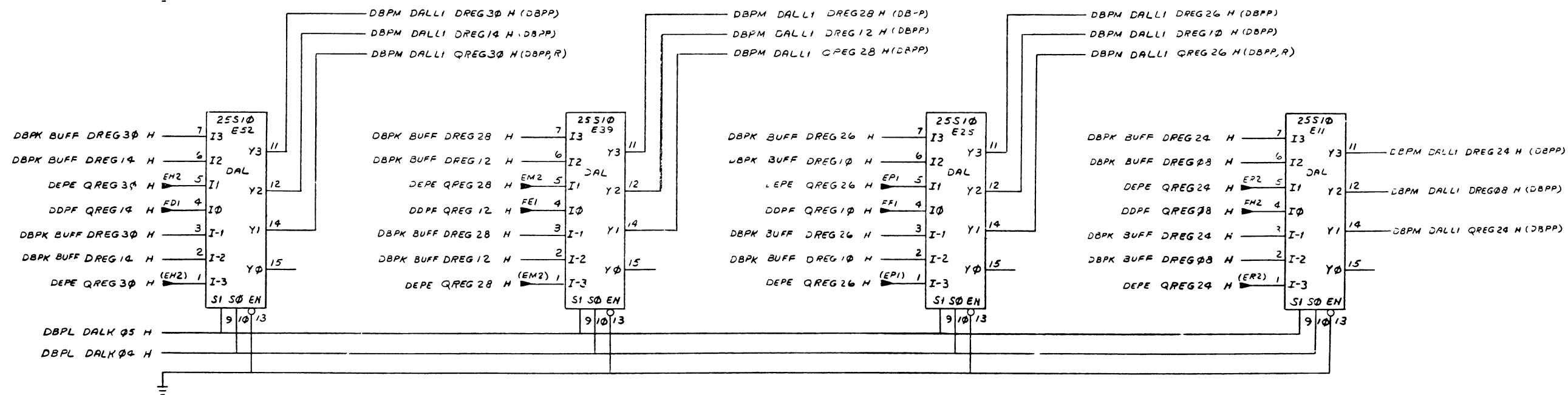


BYTE = ZERO DECODER INPUT	SV(4:3)		SV(2:0)	NORM SV RANGE
3 2 1 0	SV4	SV3	SOURCE	
L L L L	L	L	BYTE3	0
L L L H	H	H	BYTE0	31-24
L L H X	H	L	BYTE1	23-16
L H X X	L	H	BYTE2	15-8
H X X X	L	L	BYTE3	7-0

X = CONT CARE

(DATA ALIGNER CONTROL)(SLCT 9)

REVISIONS		
CHK	CHANGE NO.	REV.

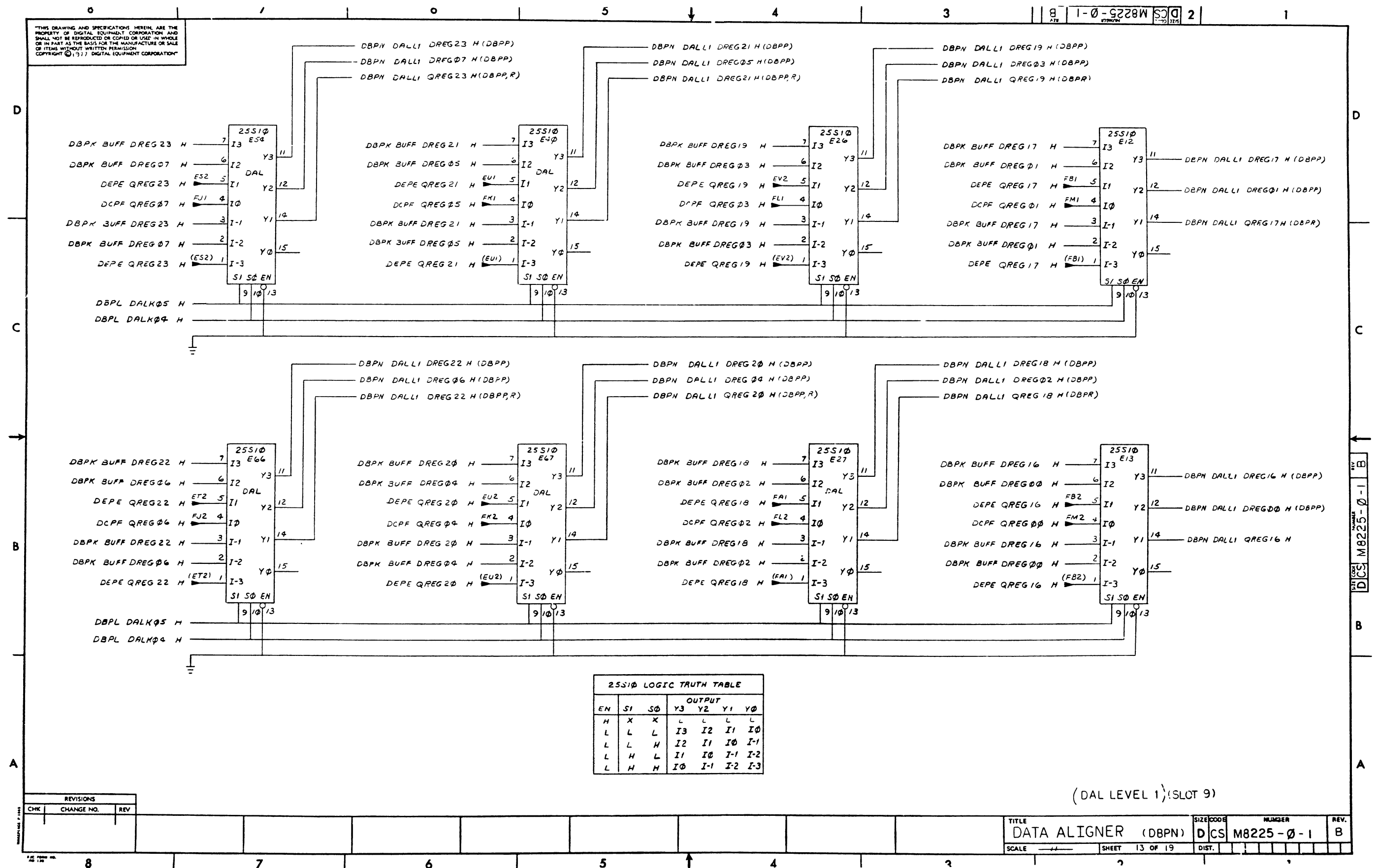


EN	SI	SO	OUTPUT			
			Y3	Y2	Y1	Y0
H	X	X	L	L	L	L
L	L	L	I3	I2	I1	I0
L	L	H	I2	I1	I0	I-1
L	H	L	I1	I0	I-1	I-2
L	H	H	I0	I-1	I-2	I-3

(DAL LEVEL 1) (SLOT 9)

REVISIONS		
CHK	CHANGE NO	REV

TITLE DATA ALIGNER (DBPM)		SIZE D	CODE CS	NUMBER M8225-Ø-1		REV B
SCALE — — —	SHEET 12 OF 19	DIST.				



NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ANY REPRODUCIBLE MATERIALS WITHOUT THE WRITTEN PERMISSION OF ©1977 DIGITAL EQUIPMENT CORPORATION

DBPP DALL2 DREG31 H (DBPS)

DBPP DALL2 DREG27 H (DBPS)

DBPP DALL2 DREG23 H (DBPS)

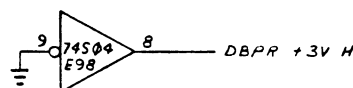
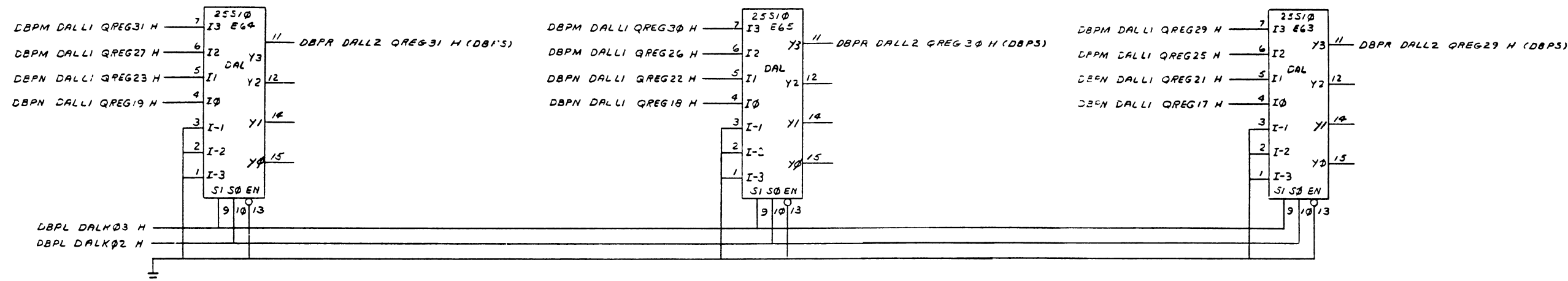
DBPP DALL2 DREG19 H (DBPS)

1.

12

TITLE DATA ALIGNER (DBPP)		IZE CODE D CS	NUMBER M8225-Ø-1				REV R
SCALE — — —	SHEET 14 OF 19	DIST.					

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

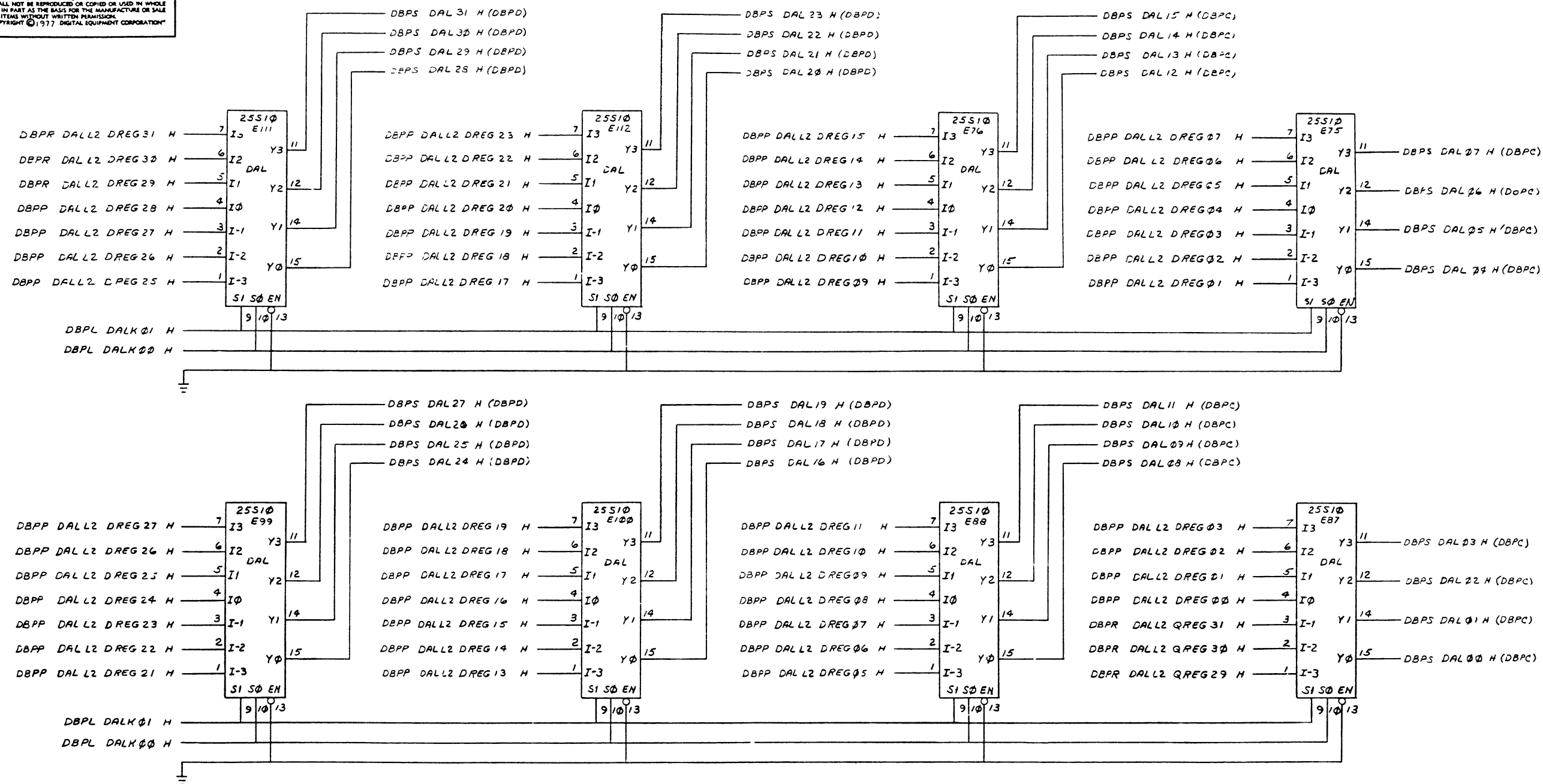


(DAL LEVEL 2) (SLOT 9)

REVISIONS		
CHK	CHANGE NO	REV.

TITLE	SIZE CODE	NUMBER	REV.
DATA ALIGNER (DBPR)	D CS	M8225-0-1	B
SCALE	SHEET	15 OF 19	DIST.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



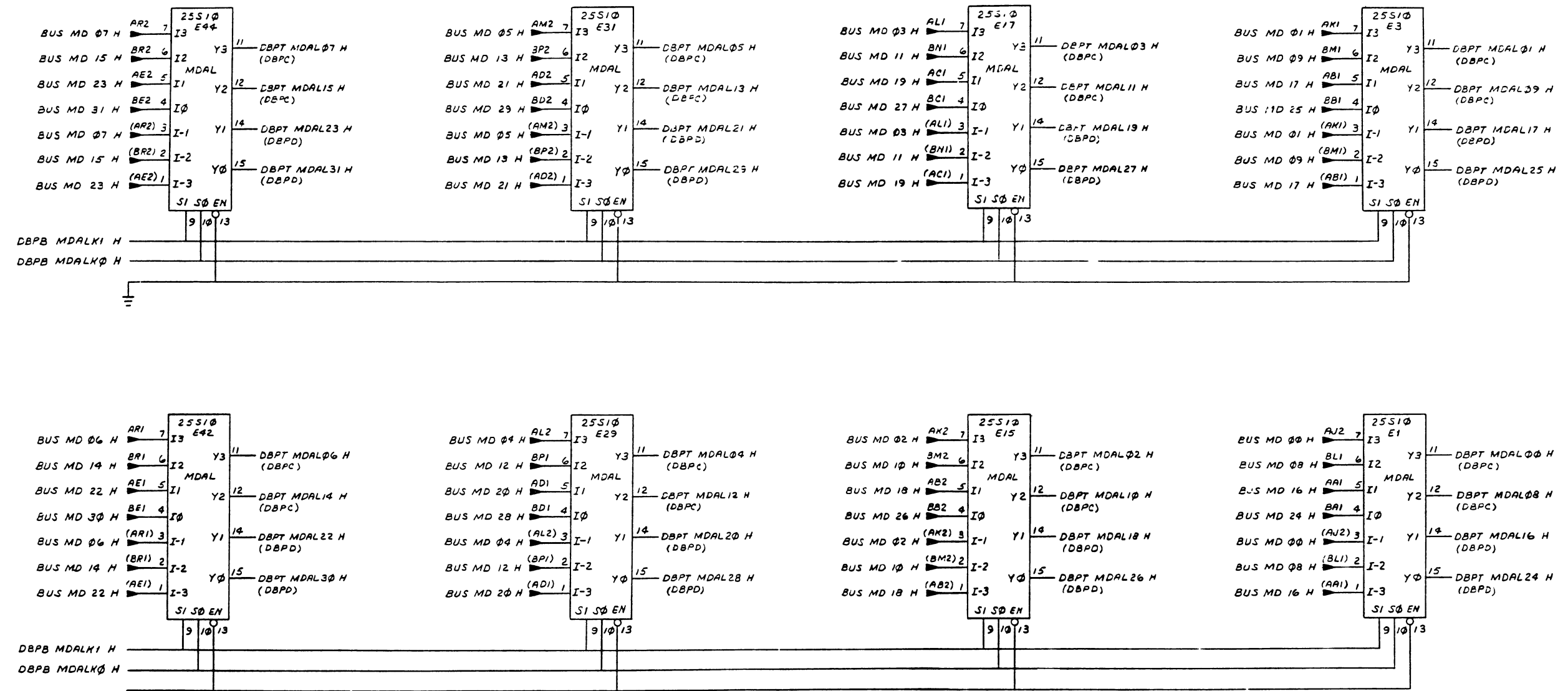
25S10 LOGIC TRUTH TABLE						
EN	S1	S0	OUTPUT			
			Y3	Y2	Y1	Y0
H	X	X	L	L	L	L
L	L	L	I3	I2	I1	I0
L	L	H	I2	I1	I0	I-1
L	H	L	I1	I0	I-1	I-2
L	H	H	I0	I-1	I-2	I-3

(DAL 31:00) (SLOT 9)

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE CODE	NUMBER	REV.
DATA ALIGNER (DBPS)	D CS	M8225-0-1	B
SCALE	SHEET	16 OF 19	DIST.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

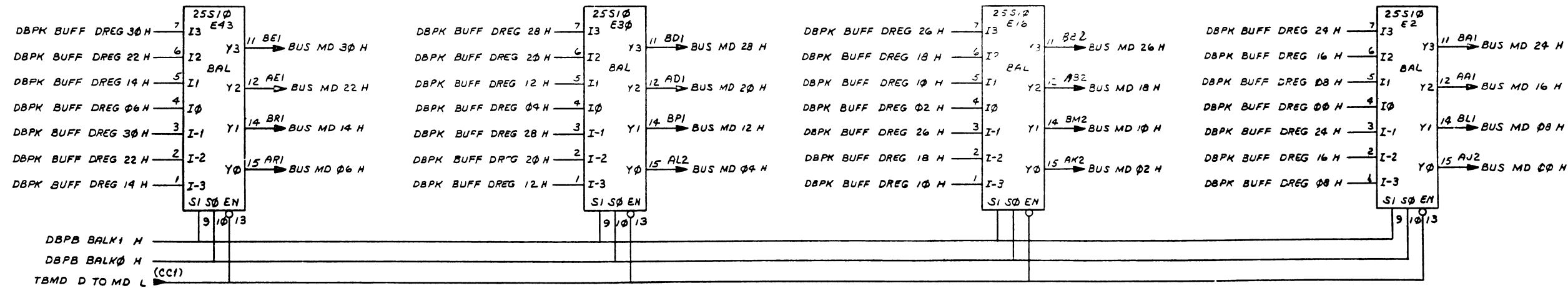
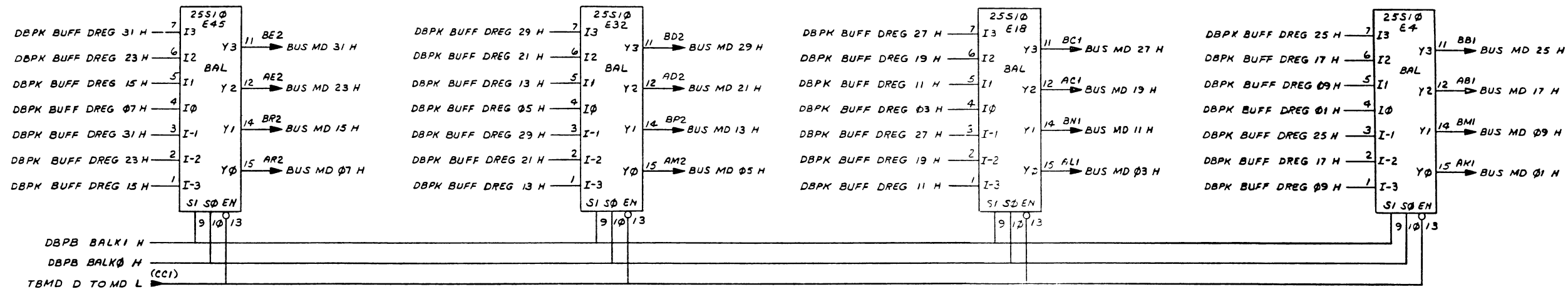


MDAL 25S10 TRUTH TABLE

BYTE SHIFT RIGHT		MDAL			
SI	S0	BYTE 3	BYTE 2	BYTE 1	BYTE 0
L	L	BUS MD (31:24)	BUS MD (23:16)	BUS MD (15:08)	BUS MD (07:00)
L	H	BUS MD (07:00)	BUS MD (31:24)	BUS MD (23:16)	BUS MD (15:08)
H	L	BUS MD (15:08)	BUS MD (07:00)	BUS MD (31:24)	BUS MD (23:16)
H	H	BUS MD (23:16)	BUS MD (15:08)	BUS MD (07:00)	BUS MD (31:24)

(MDAL 31:00) (SLOT 9)

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITUS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



BAL
25S10 TRUTH TABLE

BYTE SHIFT LEFT		BUS MD DATA			
SI	S0	BYTE 3	BYTE 2	BYTE 1	BYTE 0
L	L	DREG (31:24)	DREG (23:16)	DREG (15:08)	DREG (07:00)
L	H	DREG (23:16)	DREG (15:08)	DREG (07:00)	DREG (31:24)
H	L	DREG (15:08)	DREG (07:00)	DREG (31:24)	DREG (23:16)
H	H	DREG (07:00)	DREG (31:24)	DREG (23:16)	DREG (15:08)

(BUS MD 31:00) (SLOT 9)

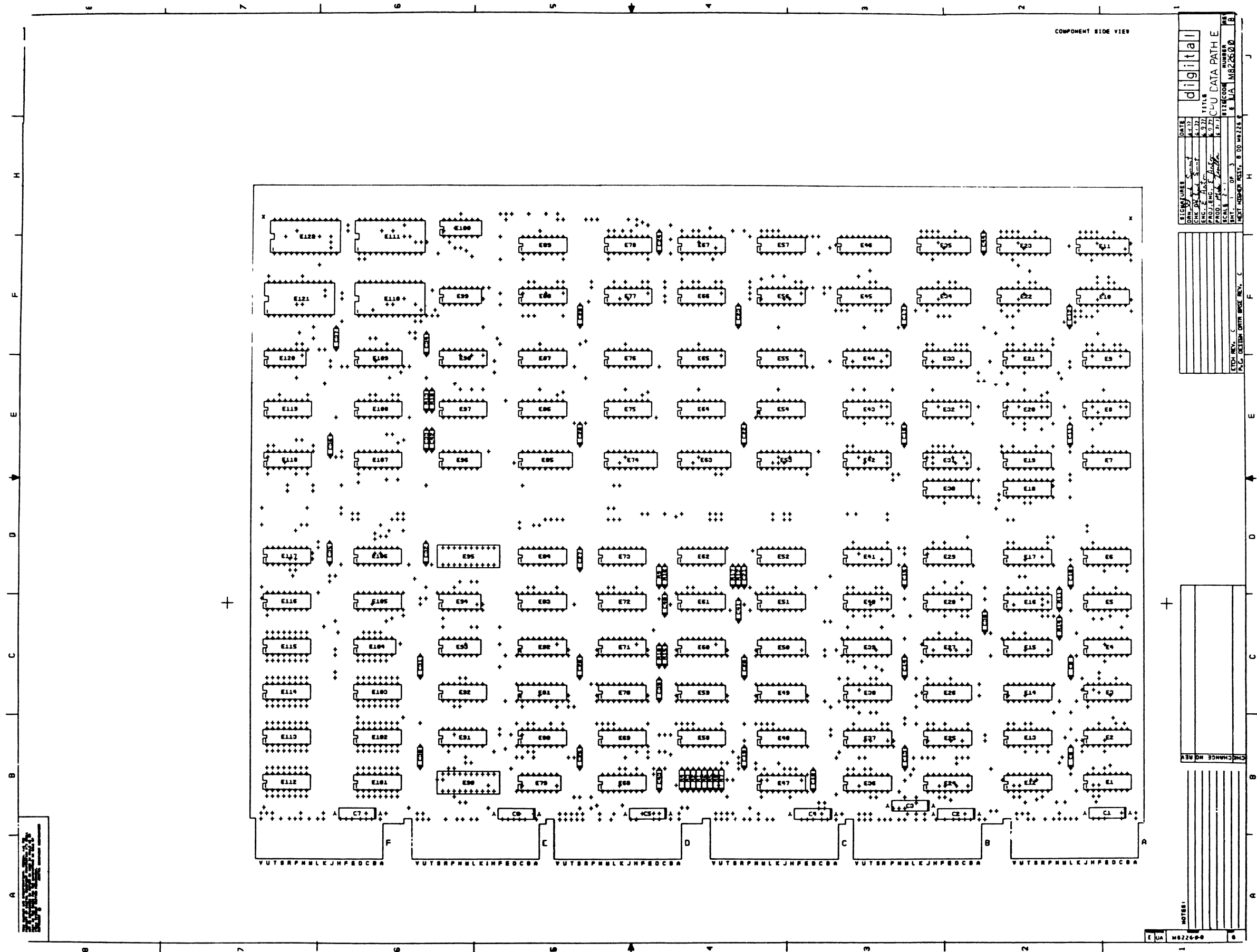
REVISIONS		
CHK	CHANGE NO.	REV.

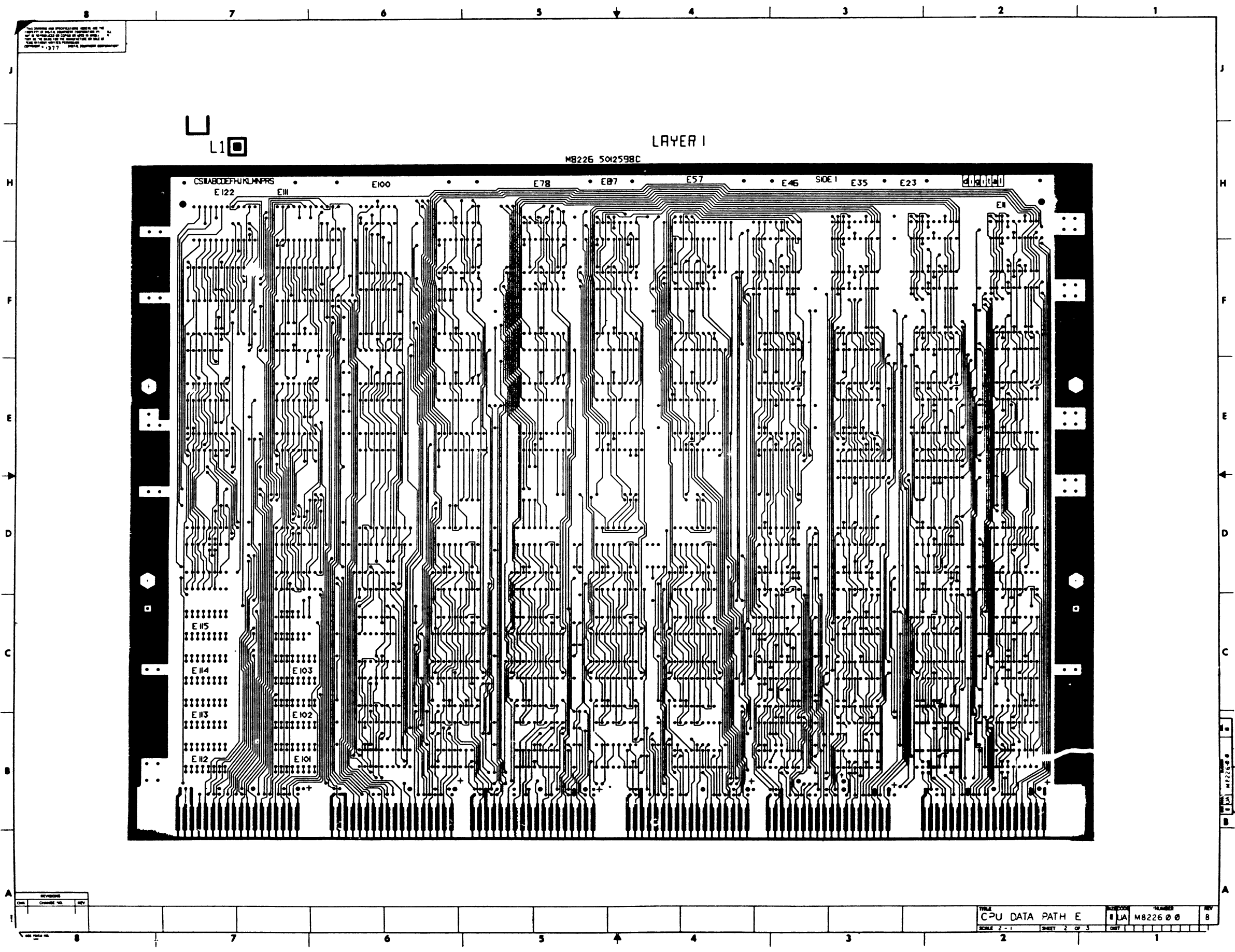
TITLE		SIZE CODE	NUMBER	REV.
DATA ALIGNER (DBPU)		D CS	M8225-0-1	B
SCALE	SHEET 18 OF 19	DIST.		

REVISIONS		
CHK	CHANGE NO	REV.



S2	S1	S0	FUNCT
L	L	L	FN = D0
L	L	H	FN = D1
L	H	L	FN = D2
L	H	H	FN = D3
H	L	L	FN = D4
H	L	H	FN = D5
H	H	L	FN = D6
H	H	H	FN = D7





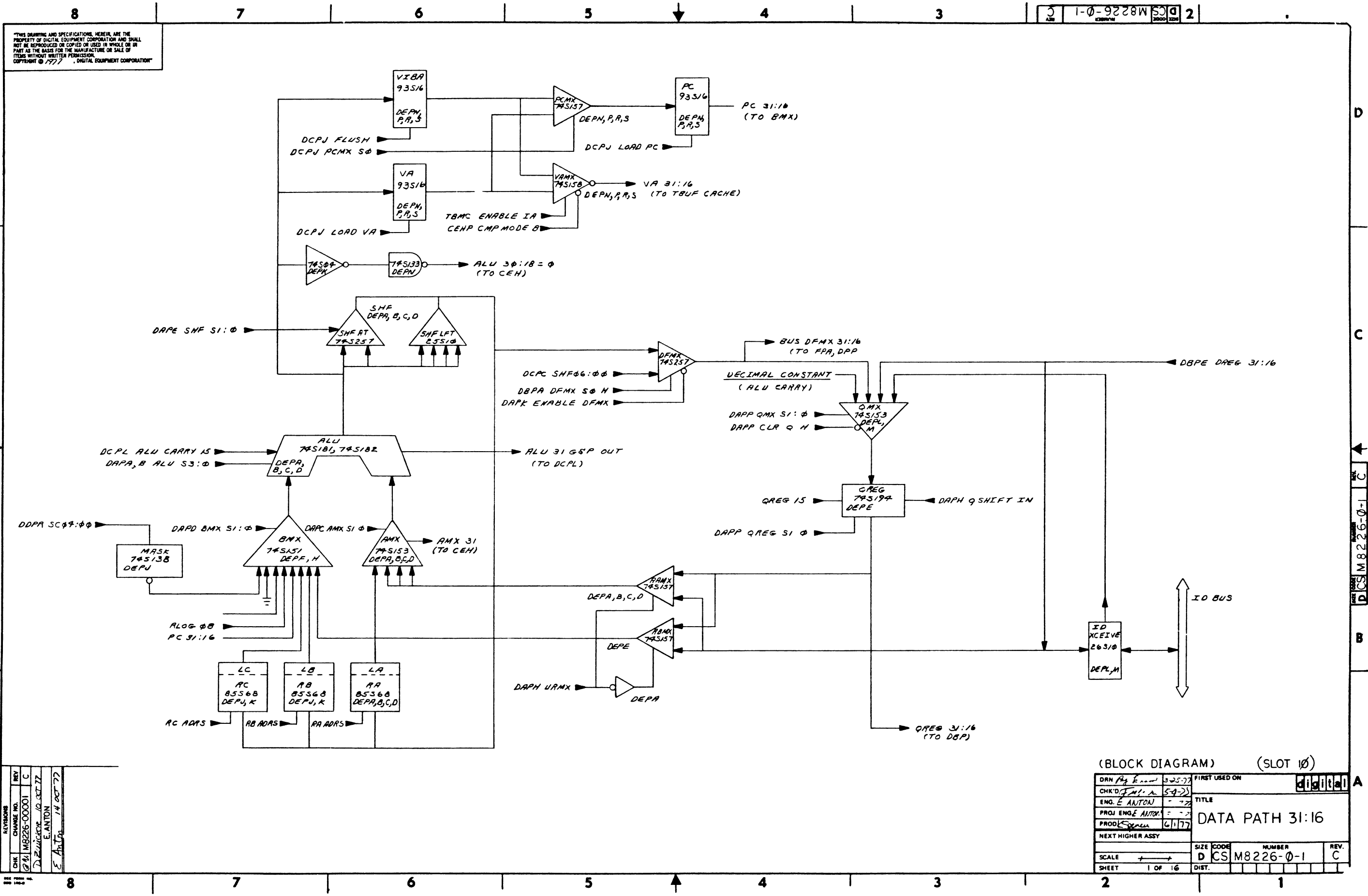
THIS DRAWING AND INFORMATION HEREON ARE THE PROPERTY OF THE U.S. GOVERNMENT AND ARE TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM THE U.S. GOVERNMENT PRINTING OFFICE: 1977

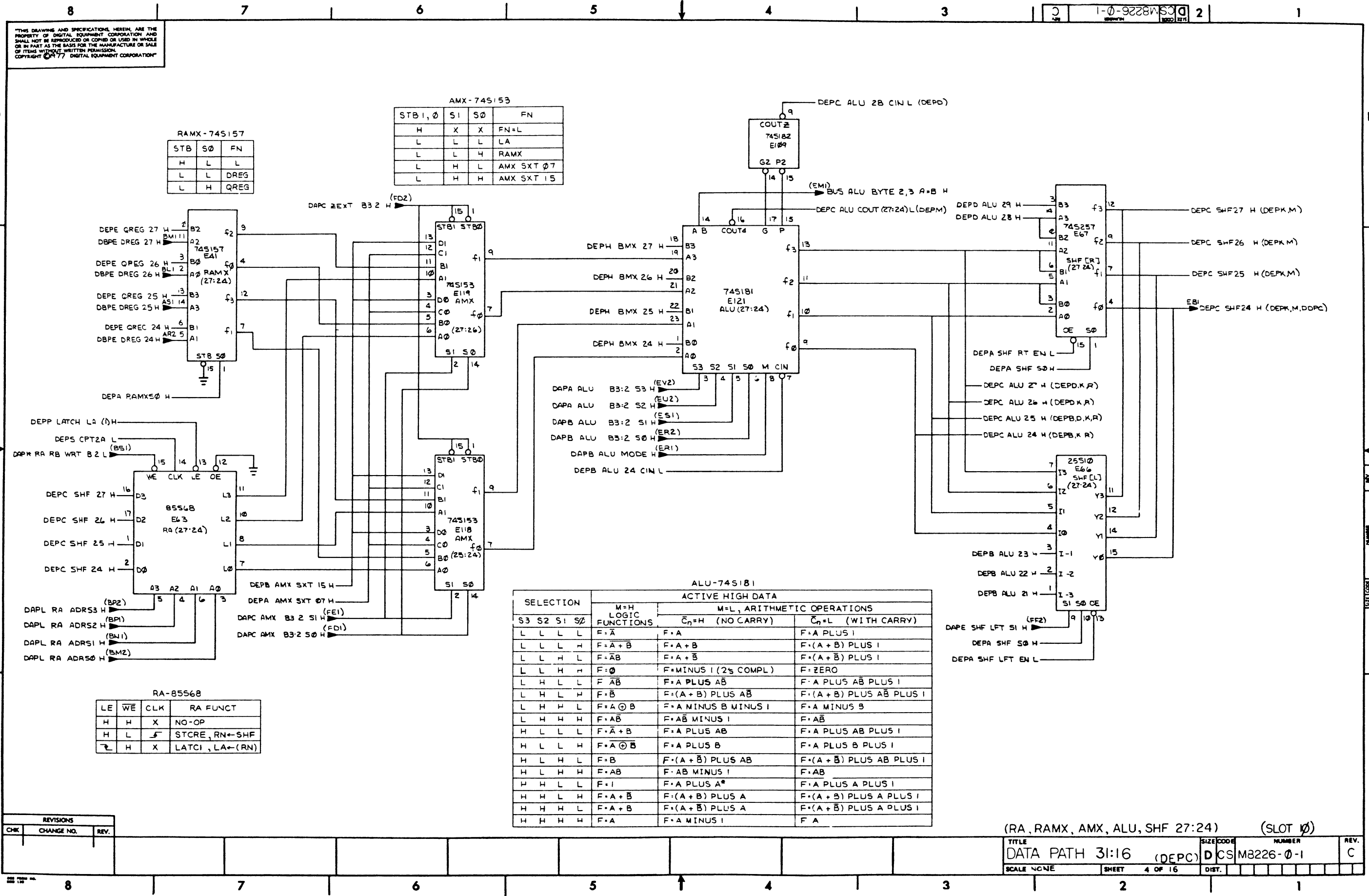
REVISIONS		
CHK	CHANGE NO.	REV

TITLE		NO. 000	NUMBER	REV
CPU DATA PATH E		8	UA	M8226 000
SCALE 2-1		SHEET 2 OF 3		DET

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:			
MADE BY <i>F. SMART</i> DATE <i>5-20-77</i>		CHECKED <i>F. SMART</i> DATE <i>5-20-77</i>		SECTION														MS 104849 CS REV B ETCH REV C	
ENG <i>E. Anton</i> DATE <i>6-9-77</i>		PROD <i>Mike Trevilla</i> DATE <i>6-21-77</i>		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8226-0-0												REF DESIGNATION			
1	E-MD 5012598-0-0	5012598B	ETCH BOARD	1															
2		1012084-01	CAPACITOR, 8UF, 25V, 10%	7												C1-C7			
3		1012784	CAPACITOR, .047UF, 50V	37												C8-C44			
4		1300247	RESISTOR, 120, 1/4W	4												R1, R3, R6, R8			
5		1300250	RESISTOR, 150, 1/4W	4												R2, R4, R5, R7			
6		1300295	RESISTOR, 330, 1/4W	5												R9-R13			
7		1301424	RESISTOR, 680, 1/4W	5												R14-R18			
8			SPARE													E101-E103, E112-E115			
9		1910531	I.C. DEC 74S181	4												E110, E111, E121, E122			
10		1910534	I.C. DEC 74S04	5												E79, E99, E100, E120, E104			
11		1910545	I.C. DEC 74S112	2												E91, E92			
12		1910549	I.C. DEC 74S158	4												E48, E58, E69, E80			
13		1910552	I.C. DEC 74S194	4												E5, E16, E28, E40			
14		1910547	I.C. DEC 74S153	16												E1, E2, E14, E15, E26, E27, E36, E37, E105-108, E116-E119			
15		1910548	I.C. DEC 74S157	12												E6, E7, E17, E19, E29, E31, E41, E42, E51, E61, E72, E83			
16		1910956	I.C. DEC 74S151	16												E8, E9, E20, E21, E32, E33, E43, E44, E54, E55, E64, E65, E75, E76, E86, E87			
17		1911415	I.C. DEC 10125	2												E47, E68			
18		1911641	I.C. DEC 74S257	8												E3, E4, E38, E39, E57, E67, E78, E89			
19		1911675	I.C. DEC 74S138	2												E18, E30			
E.C.O. NO.																			
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE CPU DATA PATH E				ASSY NO. E-UA-M8226-0-0				SIZE B		CODE PL		NUMBER M8226-0-0		REV. B	
				SHEET 1 OF 2				INSERTION PARTS LIST DATA BASE REV											

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:			
MADE BY <i>F. Smart</i> DATE <i>5-20-77</i>		CHECKED <i>F. Smart</i> DATE <i>5-20-77</i>		SECTION														MS 104849 CS REV B ETCH REV C	
ENG <i>E. Anton</i> DATE <i>6-9-77</i>		PROD <i>Mike Turella</i> DATE <i>6-21-77</i>		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8226-0-0													REF DESIGNATION		
20		1911712	I.C. DEC 74S51	1													E93		
21		1911983	I.C. DEC 74S133	1													E98		
22		1912097	I.C. DEC 74S182	1													E109		
23		1912389	I.C. DEC 74S08	1													E94		
24		1912586	I.C. DEC 85S68	12													E10, E11, E22, E23, E34, E35, E45, E46, E53, E63, E74, E85		
25		1912660	I.C. DEC 74S253	1													E97		
26		1912693	I.C. DEC 25S10	4													E56, E66, E77, E88		
27		1912746	I.C. DEC 74S37	1													E96		
28		1913294	I.C. DEC 93S16	12													E49, E50, E59, E60, E70, E71, E81, E82, E52, E62, E73, E84		
29		1913462	I.C. DEC 74S240	1													E90		
30		1913493	I.C. DEC 74S241	1													E95		
31		1913788	I.C. DEC 26S10	4													E12, E13, E24, E25		
32		1210711-2	HANDLE ASSY (HEX)	1															
33		9000024-01	EYELET, HANDLE	12															
E.C.O. NO.																			
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION				TITLE CPU DATA PATH E				ASSY NO. E-UA-M8226-0-0				SIZE B		CODE PL		NUMBER M8226-0-0		REV. B	
				SHEET 2 OF 2				INSERTION PARTS LIST DATA BASE REV											





THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

RAMX-74S157

STB	S0	FN
H	L	L
L	L	DREG
L	H	QREG

AMX-74S153

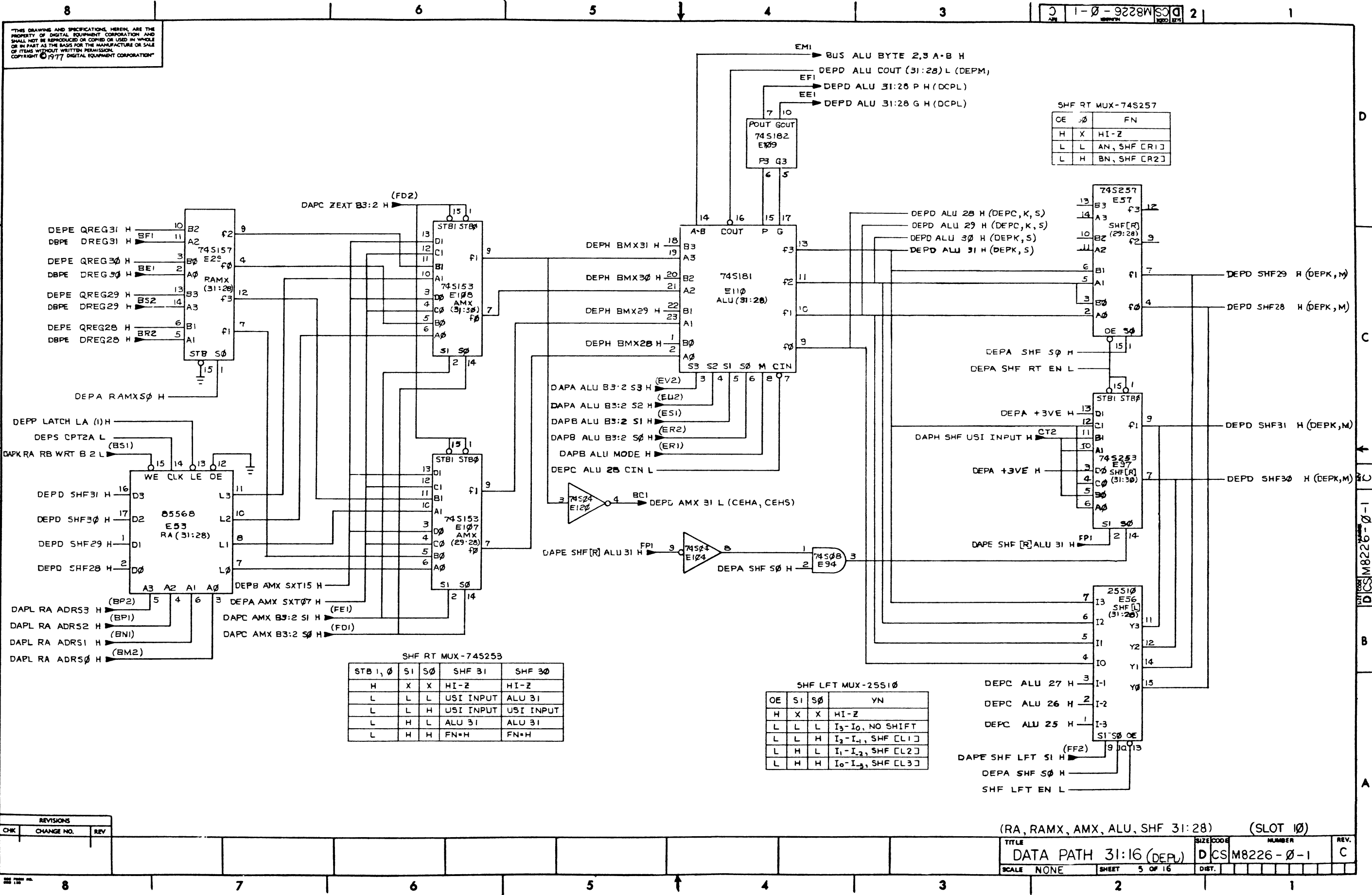
STB1,0	S1	S0	FN
H	X	X	FN=L
L	L	L	LA
L	L	H	RAMX
L	H	L	AMX SXT 07
L	H	H	AMX SXT 15

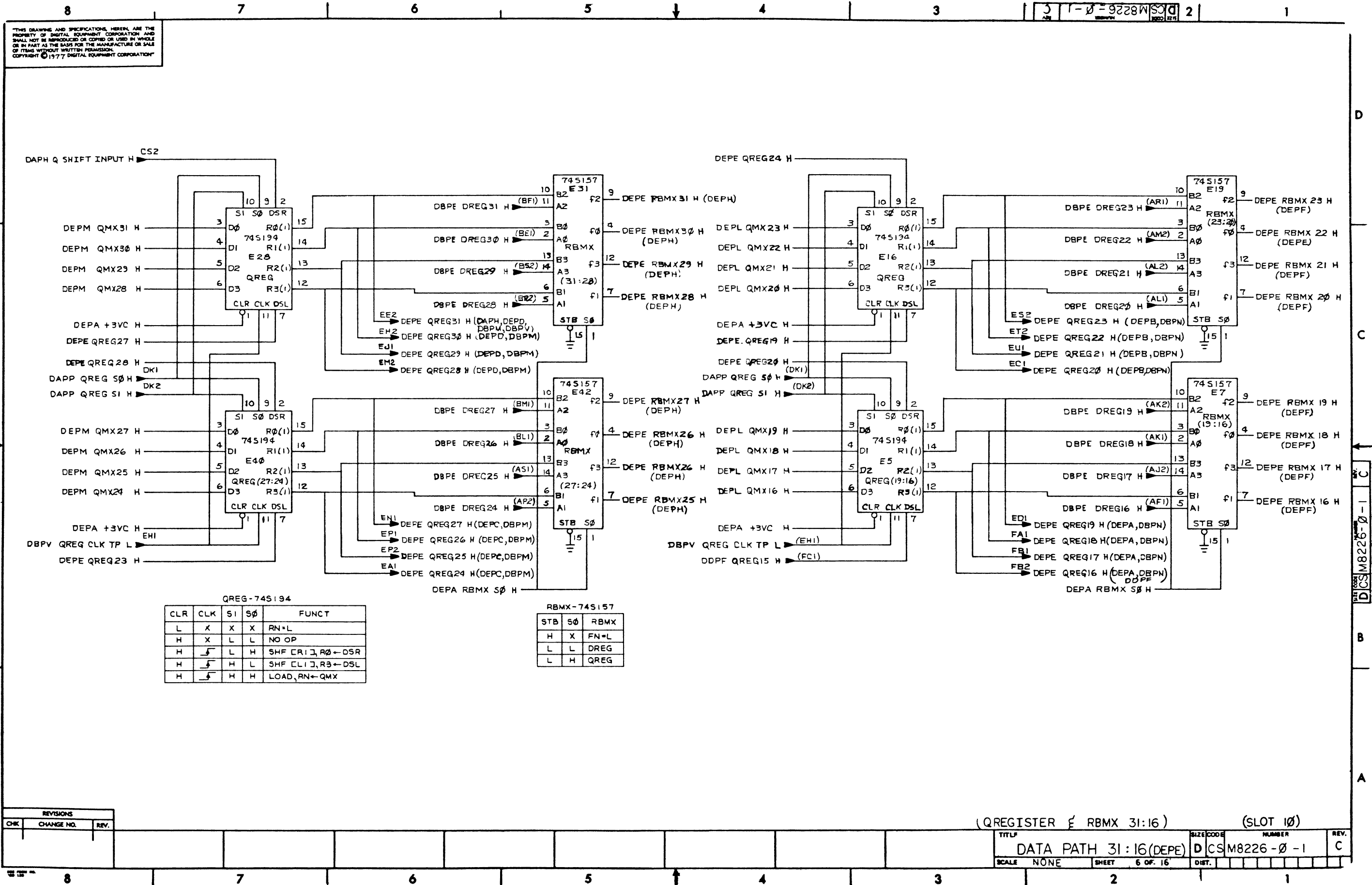
ALU-74S181

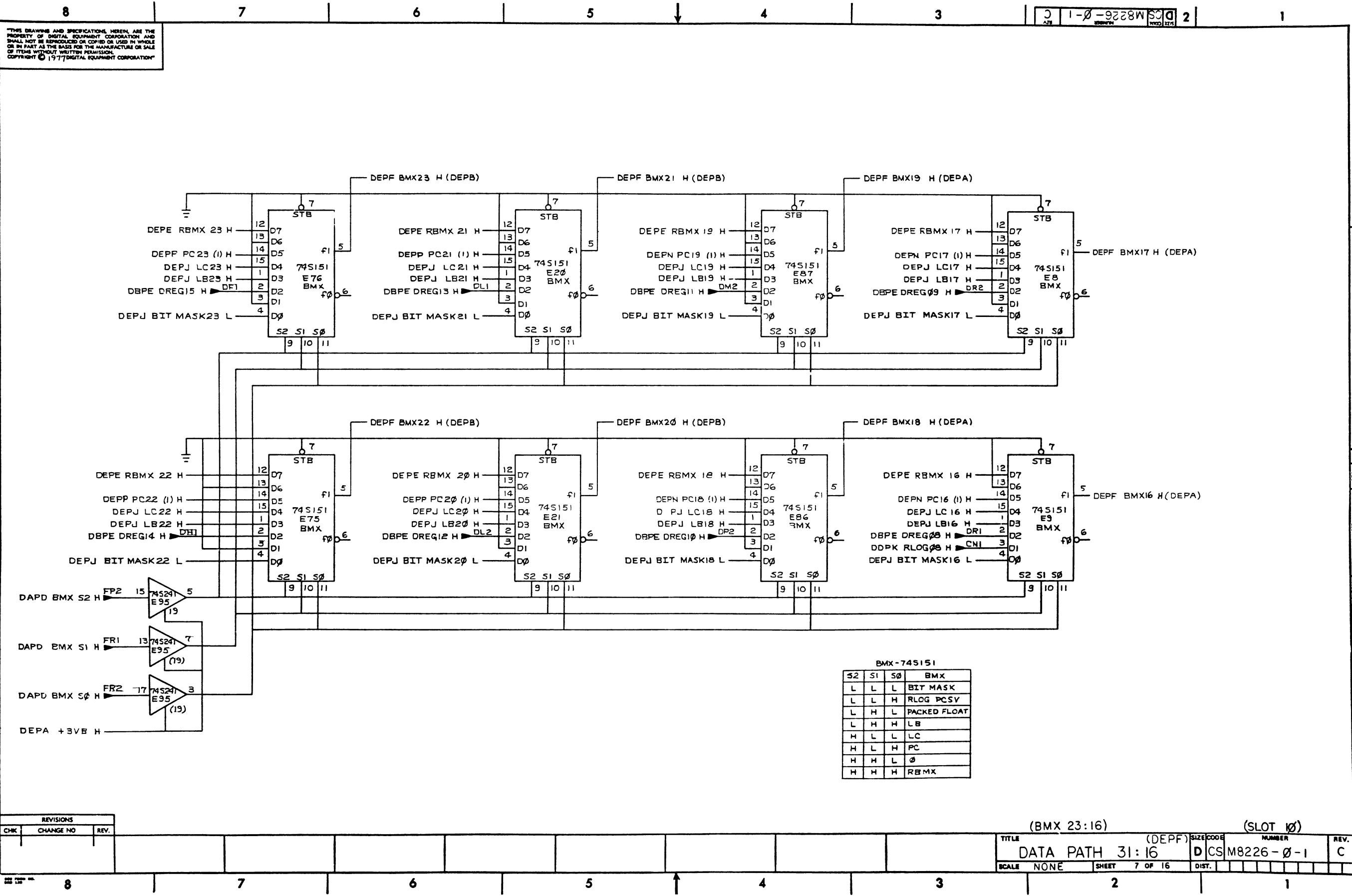
SELECTION	ACTIVE HIGH DATA					
	M=H LOGIC FUNCTIONS	M=L, ARITHMETIC OPERATIONS				
		$\bar{C}_n=H$ (NO CARRY)		$\bar{C}_n=L$ (WITH CARRY)		
S3 S2 S1 S0	F=A	F=A	F=A PLUS 1			
L L L L	F=A+B	F=A+B	F=(A+B) PLUS 1			
L L L H	F=A-B	F=A+B	F=(A+B) PLUS 1			
L L H L	F=0	F=MINUS 1 (2's COMPL)	F=ZERO			
L L H H	F=AB	F=A PLUS AB	F=A PLUS AB PLUS 1			
L H L L	F=B	F=(A+B) PLUS AB	F=(A+B) PLUS AB PLUS 1			
L H L H	F=A⊕B	F=A MINUS B MINUS 1	F=A MINUS B			
L H H L	F=AB	F=AB MINUS 1	F=AB			
L H H H	F=A+B	F=A PLUS AB	F=A PLUS AB PLUS 1			
H L L L	F=A⊕B	F=A PLUS B	F=A PLUS B PLUS 1			
H L L H	F=B	F=(A+B) PLUS AB	F=(A+B) PLUS AB PLUS 1			
H L H L	F=AB	F=AB MINUS 1	F=AB			
H L H H	F=1	F=A PLUS A*	F=A PLUS A PLUS 1			
H H L L	F=A+B	F=(A+B) PLUS A	F=(A+B) PLUS A PLUS 1			
H H L H	F=A+B	F=(A+B) PLUS A	F=(A+B) PLUS A PLUS 1			
H H H L	F=A	F=A MINUS 1	F=A			
H H H H						

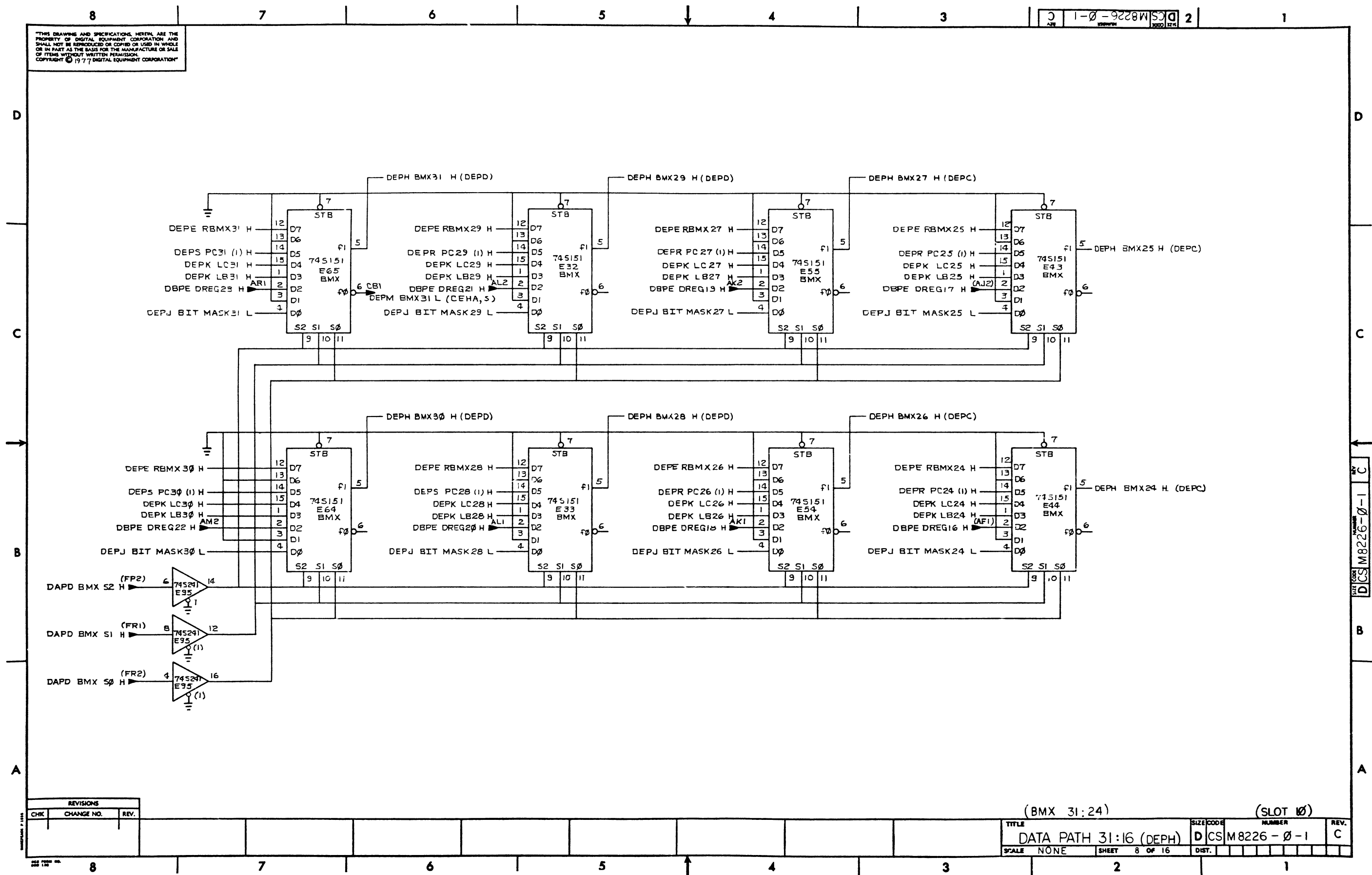
RA-85S68

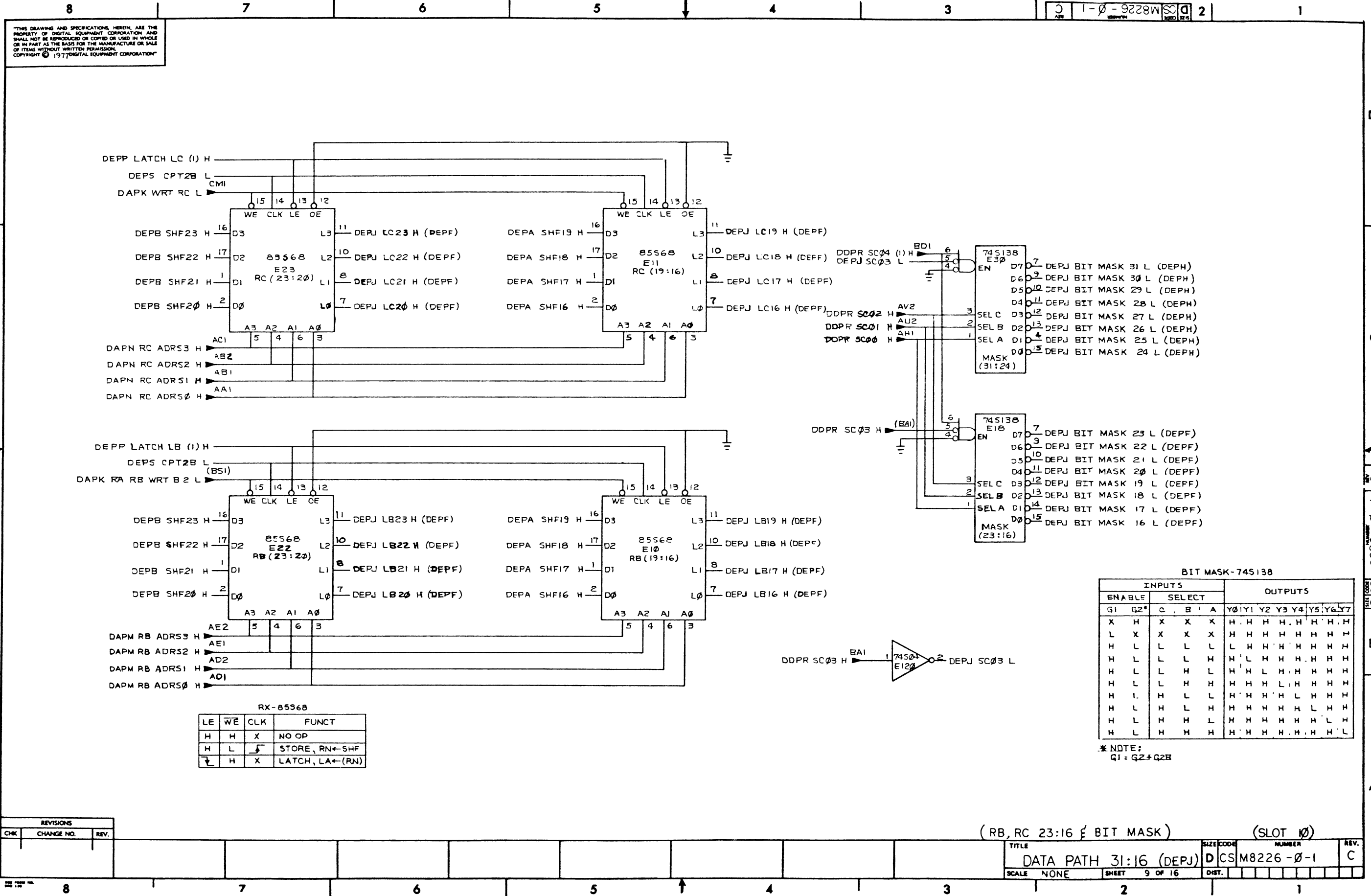
LE	WE	CLK	RA FUNCT
H	H	X	NO-OP
H	L	X	STCRE, RN←SHF
L	H	X	LATCI, LA←(RN)

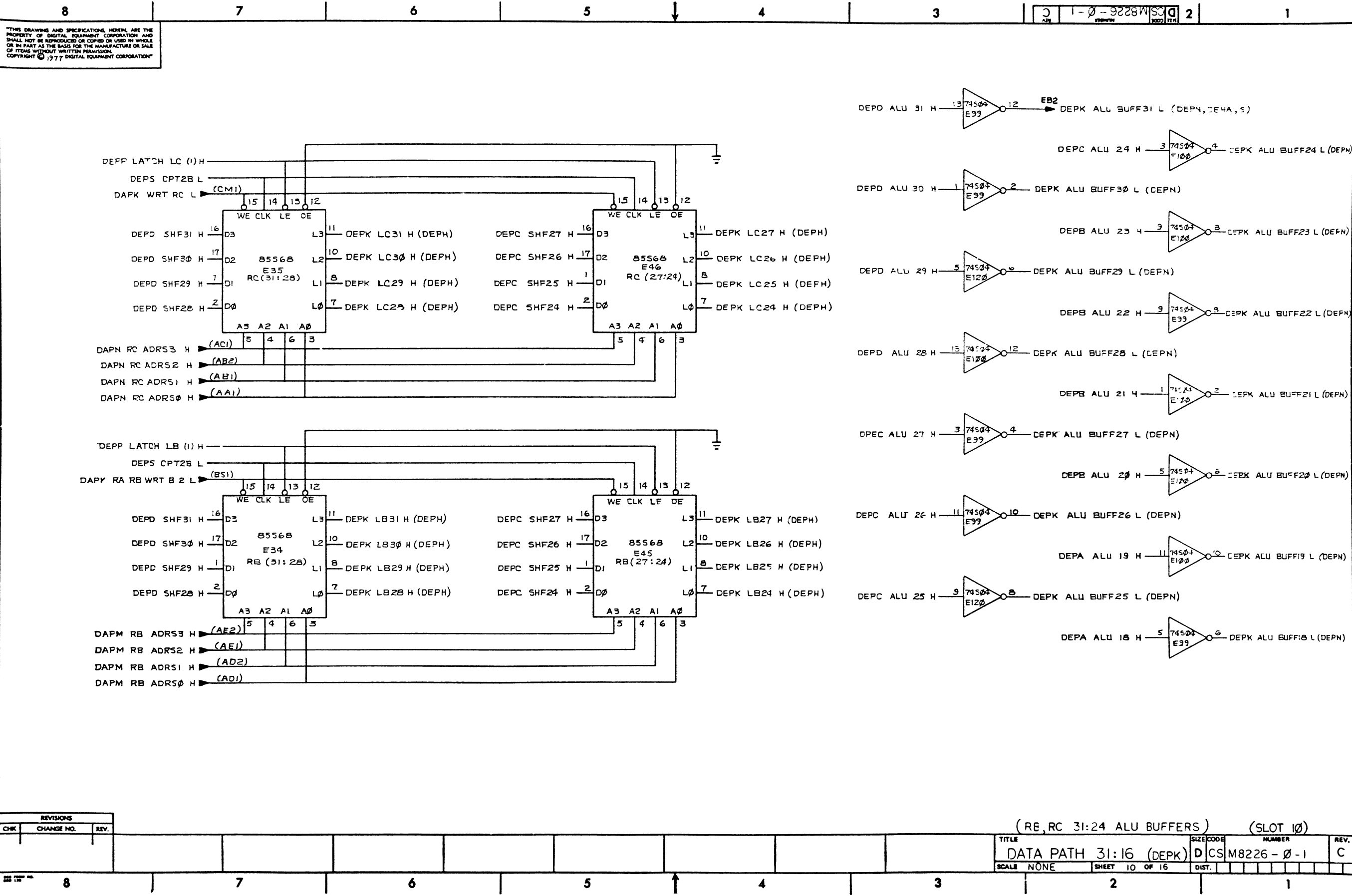




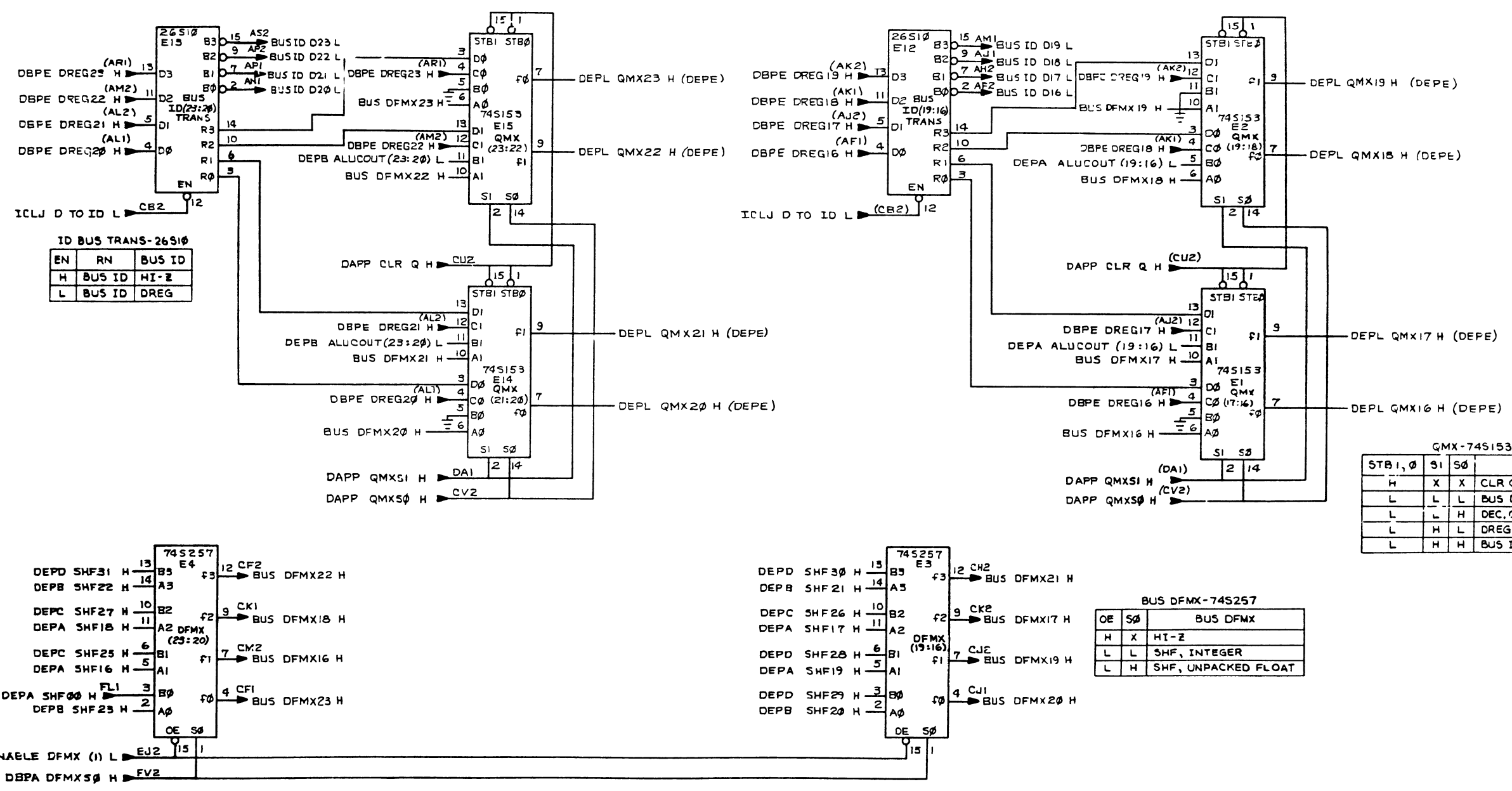


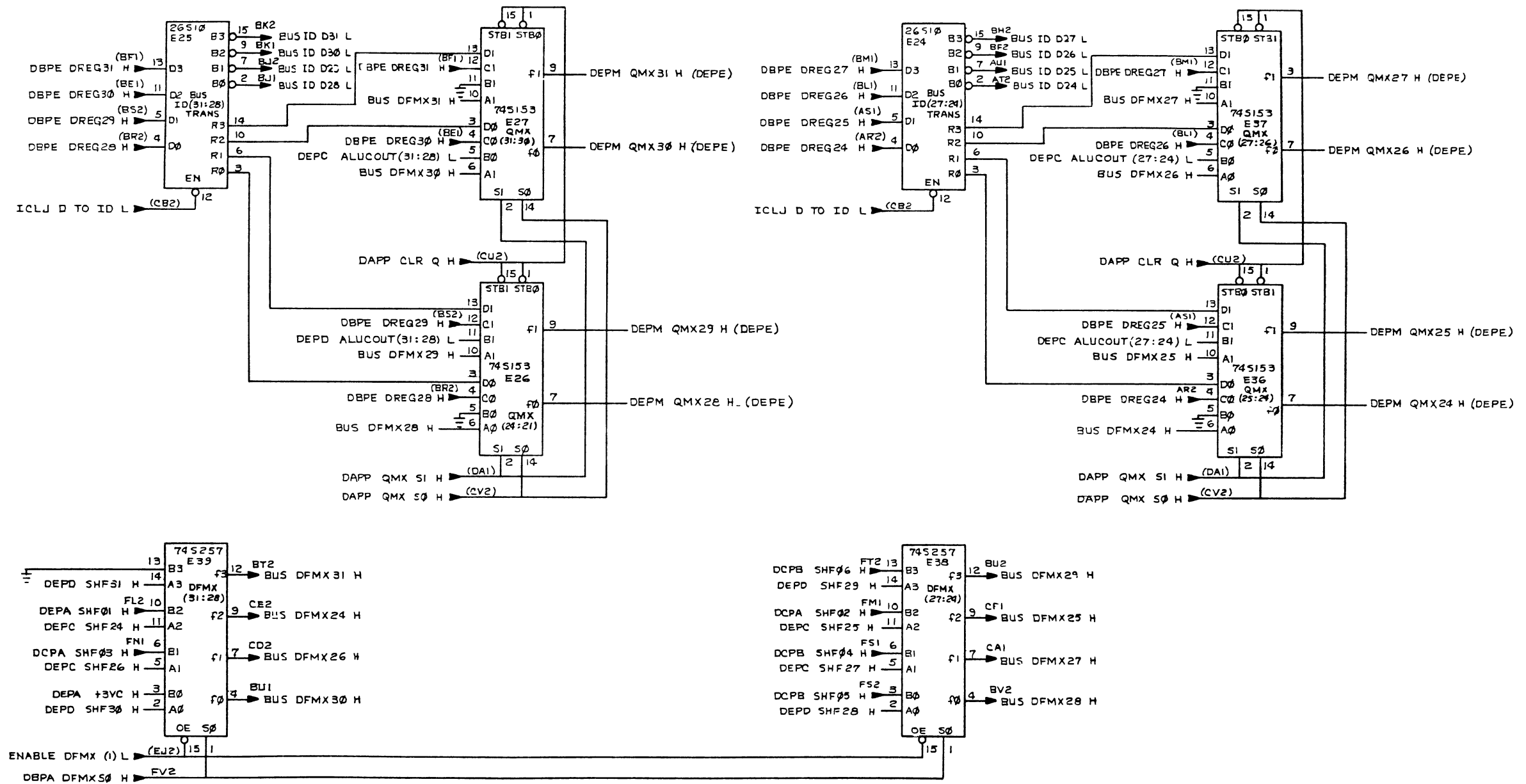


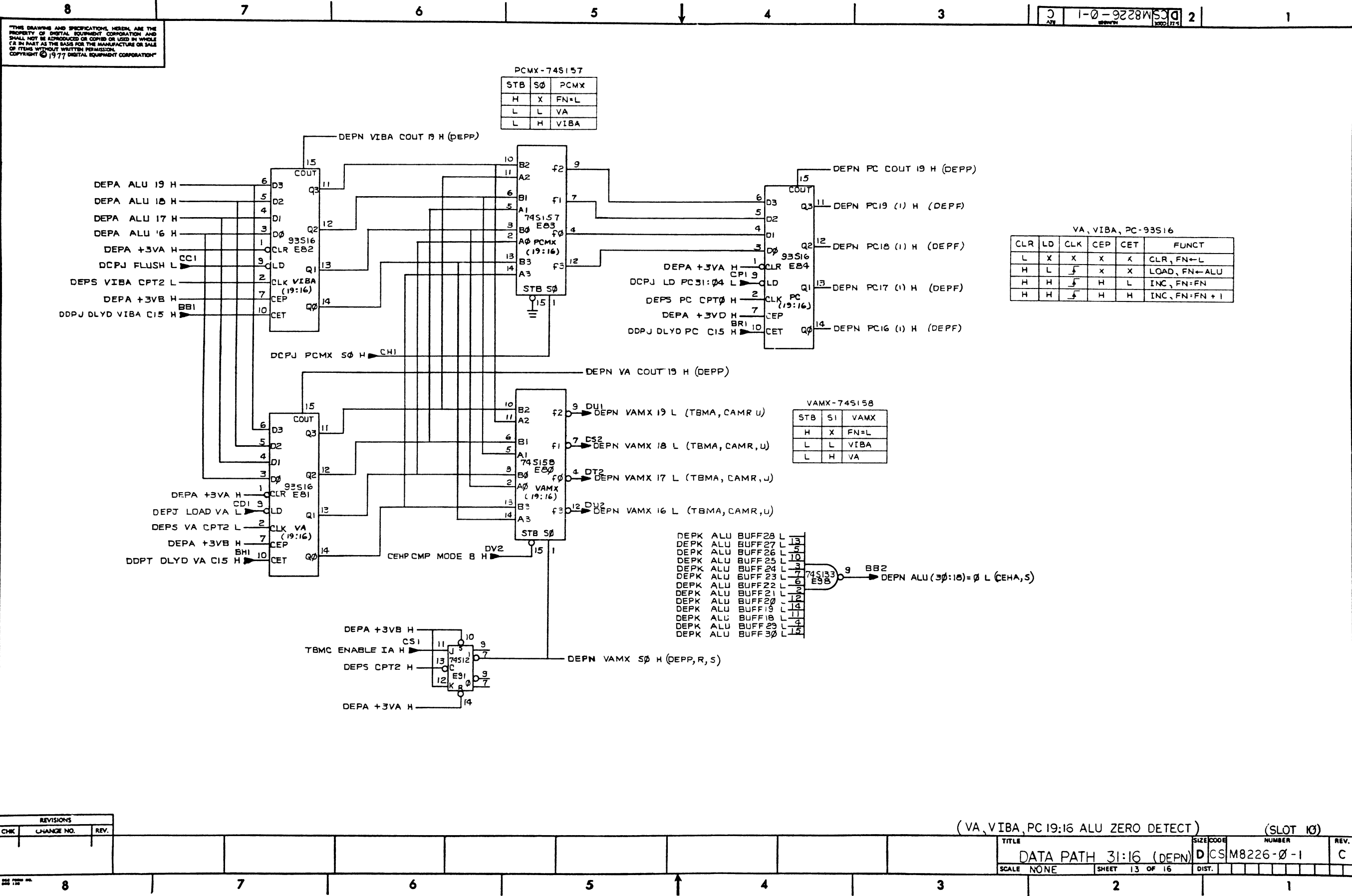




THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION







"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE ADAPTED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

PCMX-74S157		
STB	S0	PCMX
H	X	FN=L
L	L	VA
L	H	VIBA

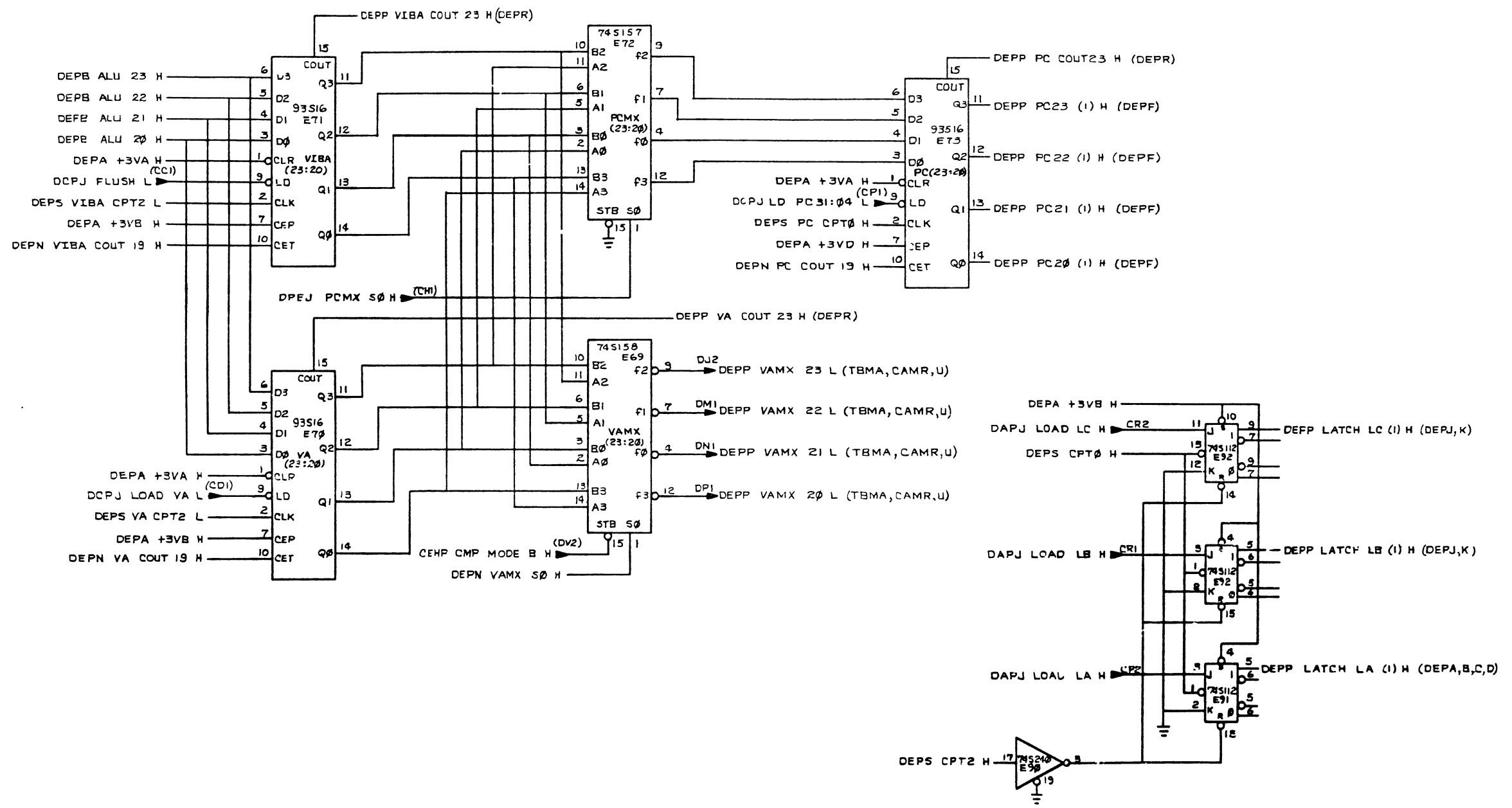
VA, VIBA, PC-93S16					
CLR	LD	CLK	CEP	CET	FUNCT
L	X	X	X	X	CLR, FN=L
H	L	L	X	X	LOAD, FN=ALU
H	H	L	H	L	INC, FN=FN
H	H	L	H	H	INC, FN=FN+1

VAMX-74S158		
STB	S1	VAMX
H	X	FN=L
L	L	VIBA
L	H	VA

REVISIONS		
CHK	CHANGE NO.	REV.

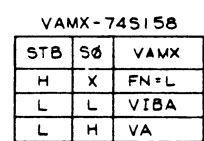
(VA, VIBA, PC 19:16 ALU ZERO DETECT)				(SLOT 10)			
TITLE DATA PATH 31:16 (DEPN)				SIZE CODE D CS M8226-0-1			
SCALE NONE				SHEET 13 OF 16			
DIST.				REV. C			

"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

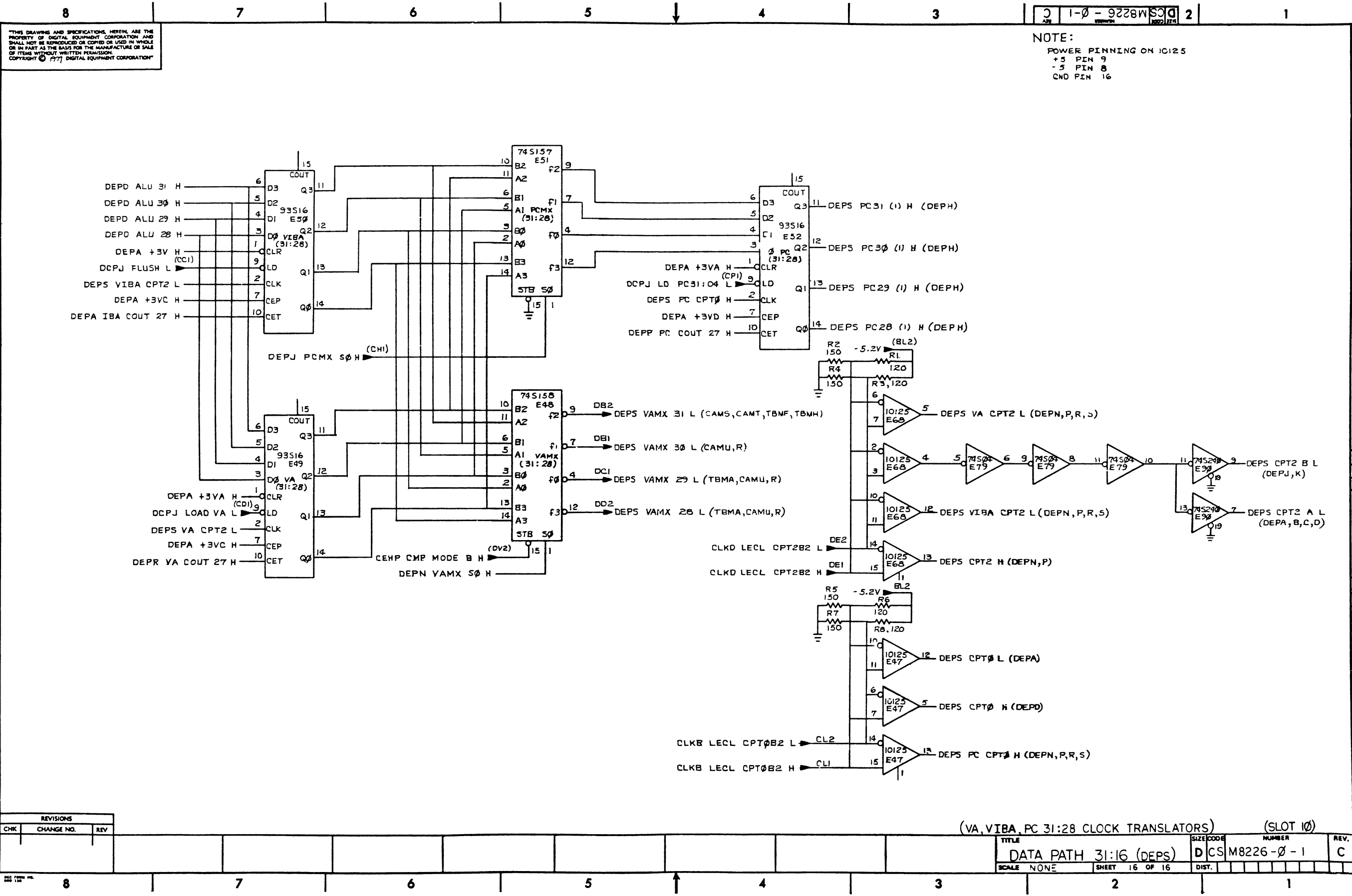


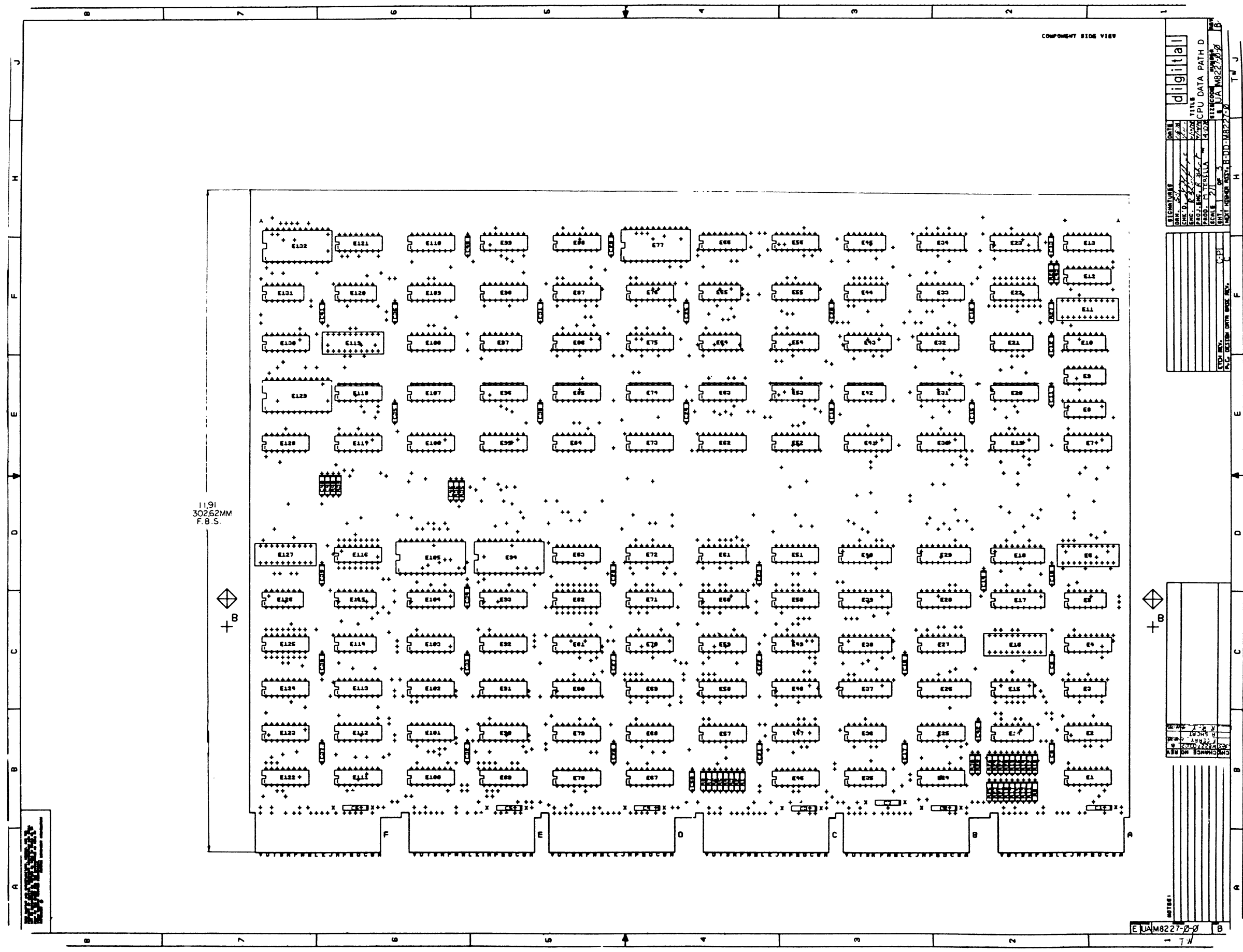
REVISIONS		
CHK	CHANGE NO.	REV.

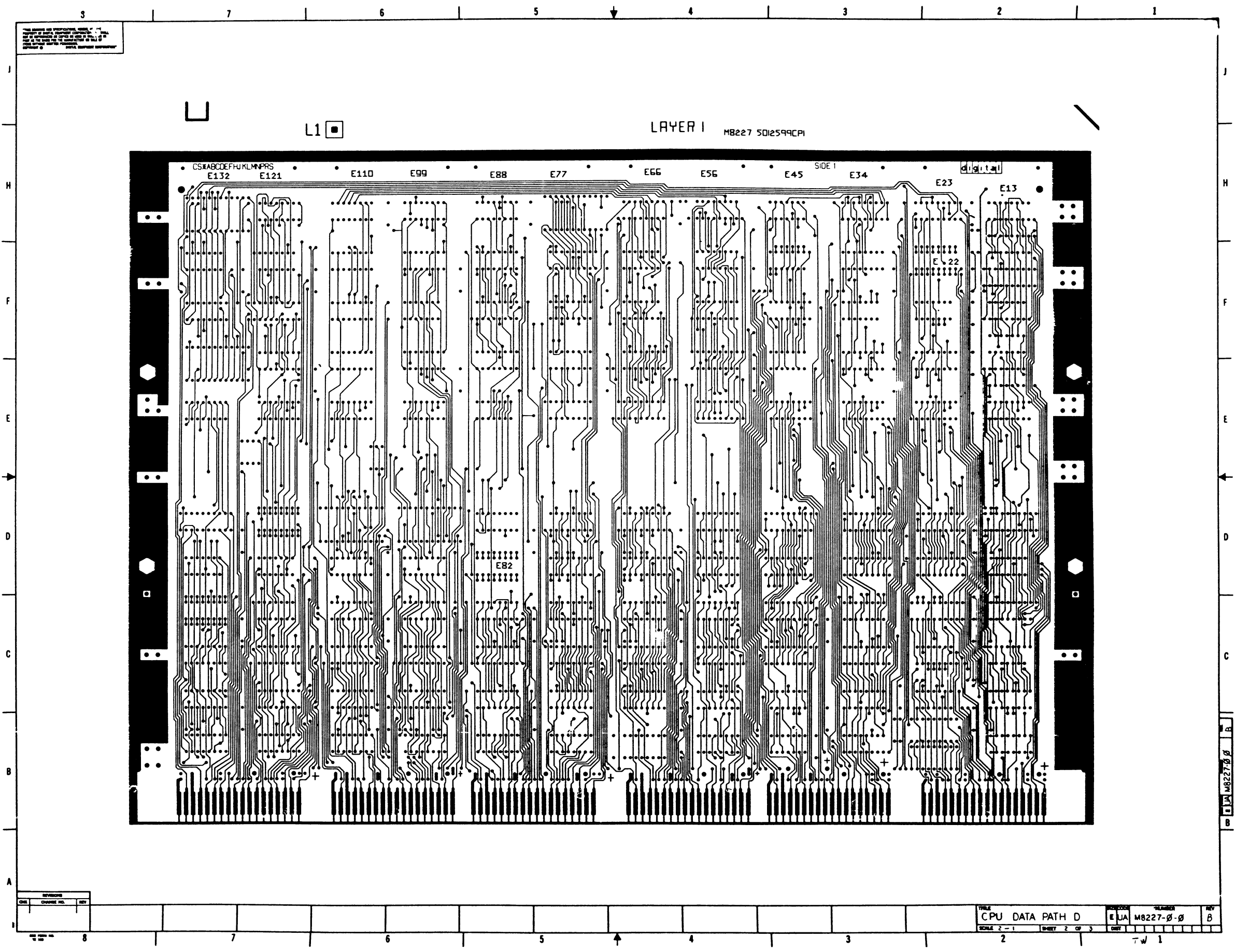
(VA, VIBA, PC 23:16 LATCH CONTROLS)		(SLOT 10)
TITLE		DATA PATH 31:16 (DEPP)
SCALE	NONE	SHEET 14 OF 16
SIZE CODE		D CS M8226-0-1
NUMBER		C



(VA VIBA 27:24)				(SLOT 10)			
TITLE		SIZE CODE		NUMBER		REV.	
DATA PATH 31:16 (DEPR)		D CS		M8226-0-1		C	
SCALE NONE		SHEET 15 OF 16		DIST.			

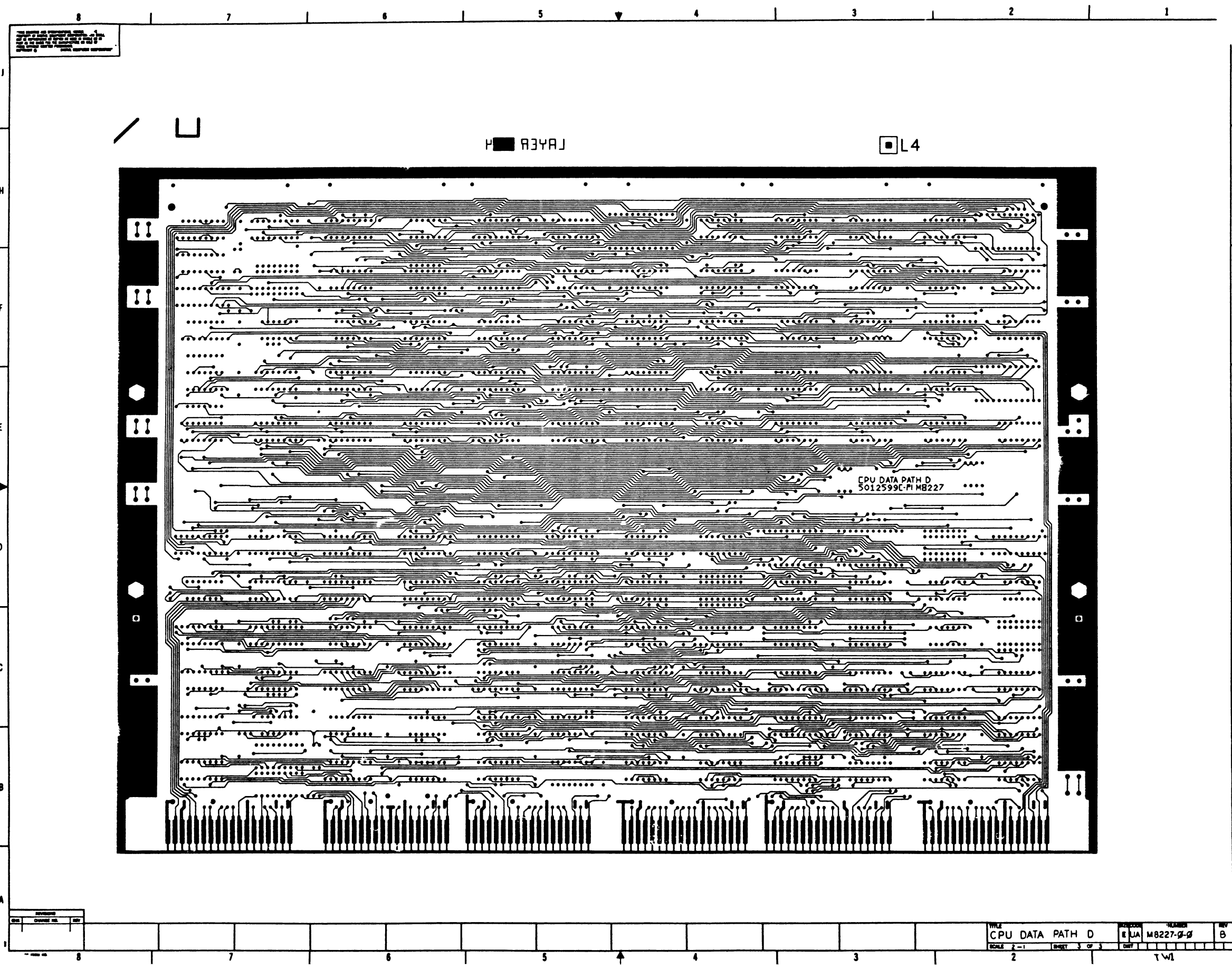






REVISIONS		
NO.	DESCRIPTION	DATE
1	CHANGE NO.	8/81

TITLE			REV		
CPU DATA PATH D			B		
SCALE 2-1			M8227-0-0		
SHEET 2 OF 3			T.W. 1		



LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	E-MD-5012599-0-0	5012599-00	M8227	1	
2	2		1012084-01	8 MFD 25V G% 30D AL EL	7	C1-C7
3	3		1012784-00	.047 MFD 50V X% CER. %	40	C8-C43,C46,C48,C49,C50
4	4		1300295-00	330 1/4W 5% CC	13	R9,R11,R13,R15,R17,R19,R21, CONT R23,R25,R28,R29,R35,R39
5	5		1301424-00	680 1/4W 5% CC	4	R27,R30,R36,R40
6	6		1300247-00	120 1/4W 5% CC	4	R1,R3,R6,R8
7	7		1300250-00	150 1/4W 5% CC	4	R2,R4,R5,R7
8	8		1301775-00	820 1/4W 5% CC	9	R10,R12,R14,R16,R18,R20,R22, CONT R24,R26
9	9		1910532-00	74S00 NAND GATE-QUAD 2IN	4	E5,E21,E84,E126
10	10		1910534-00	74S04 INVERTER GATE-HEX 1IN	10	E8,E35,E42,E45,E64,E65,E97, CONT E115,E120,E131
11	11		1912389-00	74S08 AND GATE-QUAD 2IN,FOS	14	E32,E114
12	12		1910537-00	74S11 AND GATE-TRIPLE 3INPUT	2	E15,E44
13	13		1910539-00	74S20 NAND GATE-DUAL 4INPUT	2	E3,E9
14	14		1911712-00	74S51 AND-OR GATE-INVERT DUAL 2W/2IN	1	E10
15	15		1910542-00	74S64 A-O-I XFDR GATE,4-2-3-2	14	E14
16	16		1910545-00	74S112 FF-JK DUAL,EDGE TRIGGER	3	E50,E51,E78
17	17		1911983-00	74S133 NAND GATE-POSITIVE 13IN	4	E43,E98,E108,E109
18	18		1911675-00	74S138 DECODER-THREE INPUT	2	E2,E52
19	19		1910956-00	74S151 MUX 1 OF 8	8	E7,E19,E30,E41,E95,E106,E117, CONT E128
20	20		1910547-00	74S153 MUX 1 OF 4 (DUAL)	19	E20,E23,E31,E34,E48,E49,E53, CONT E56,E60,F61,E62,E63,E66,E71, CONT E72,E80,E81,E86,E87
21	21	BLANK			0	
22	22		1910548-00	74S157 MUX 1 OF 2 (QUAD)	13	E57,E58,E68,E69,E73,E75,E76, CONT E85,E88,E92,E103,E118,E121
23	23		1910549-00	74S158 MUX 1 OF 2 (QUAD)	4	E4,E27,E89,E100

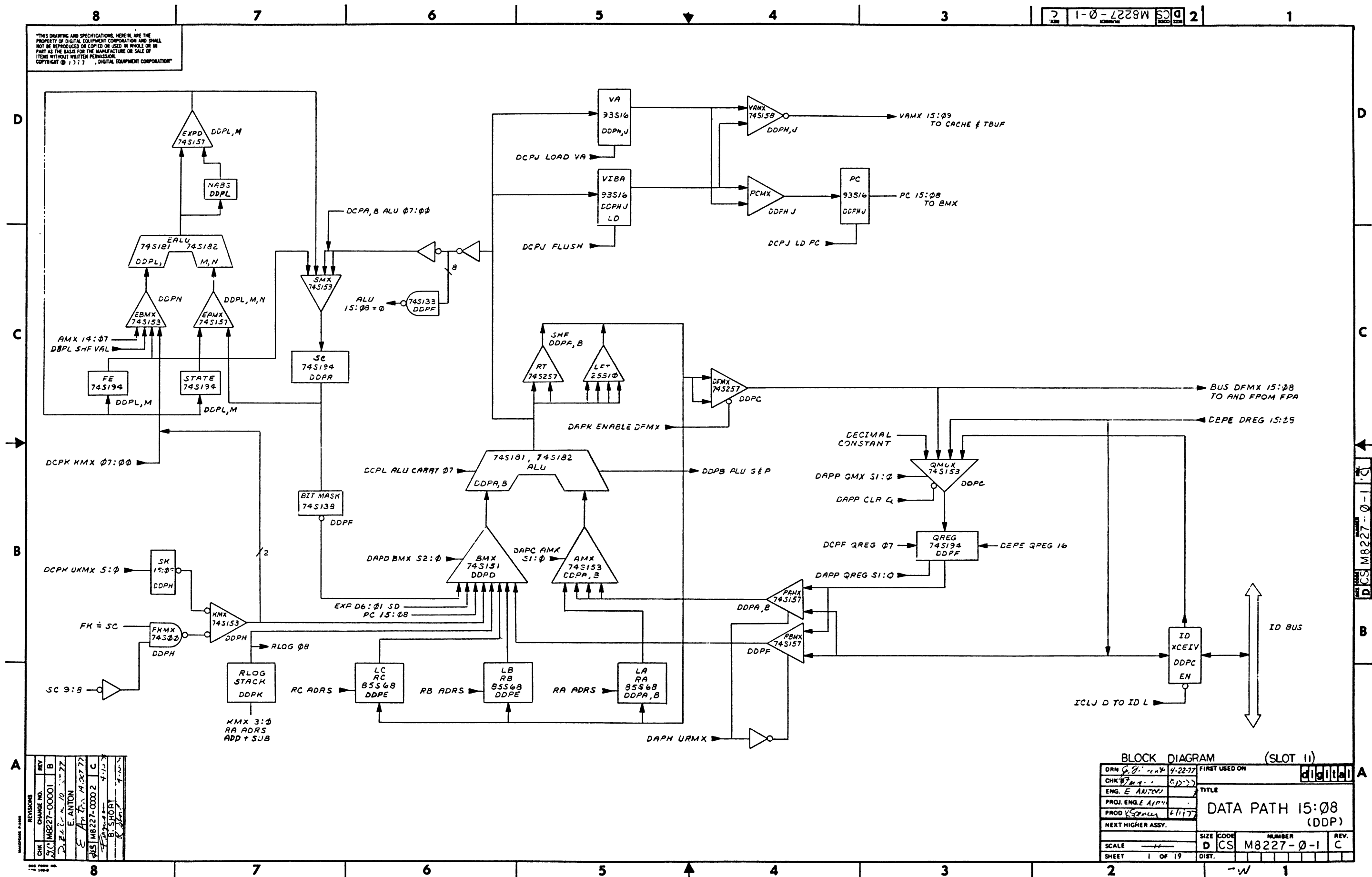
REVISION HISTORY				VARIATIONS FOR THIS ASSY.		FIRST USED ON:		DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
CHK	ECO NO	REV						TITLE			
---	00002	B		00		MADE BY: F SMART	DATE: 29-MAR-78	PARTS LIST			
						CHECKED: F SMART	DATE: 29-MAR-78	CPU DATA PATH D			
						DSN.ENG.: E ANTON	DATE: 29-MAR-78	SIZE	CODE	DOCUMENT NUMBER	REV
						PROD.: M. TERELLA	DATE: 29-MAR-78	K	PL	M8227-0-DBP	B
						RESP.ENG.: E ANTON	DATE: 29-MAR-78	ASSY.NO.: E-UA-M8227-0-0			EDIT#
											6

*THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT 1978. DIGITAL EQUIPMENT CORPORATION *

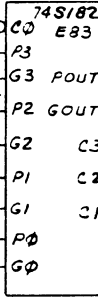
LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
24	24		1910957-00	74S175 FF-D QUAD COMMON CLOCK	4	E1,E12,E24,E25
25	25		1910531-00	DEC 74S181 ALU-4BIT	5	E77,E94,E105,E129,E132
26	26		1912097-00	SN 74S182 LOOK AND CARRY GEN	2	E83,E130
27	27		1910552-00	74S194 SHIFT REG.,4BIT RIGHT/LEFT	10	E33,E54,E55,E59,E70,E74,E96,
					CONT	E99,E107,E110
28	28		1913493-00	74S241 OCTAL BUFFER,TRI-STATE	2	E11,E127
29	29		1911641-00	SN 74S257 MUX,QUAD 2 TO 1	4	E111,E113,E122,E124
30	30		1912865-00	LS283 ADDER-4BIT BINARY FULL W/FAST	1	E13
31	31		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,UNIBUS,Q-BU	1	E36
32	32		1912586-00	85S68 REGISTER,64BIT EDGE TRIG,TRIST	9	E17,E18,E26,E28,E29,E37,E38,
					CONT	E39,E40
33	33		1913294-00	93S16 COUNTER,SYNCH UP BINARY	6	E90,E91,E93,E101,E102,E104
34	34		1912693-00	25S10 SHIFTER,4BIT TRI-STATE	2	E112,E123
35	35		1913788-00	26S10 TRANSCEIVER,BUS,QUAD	2	E47,E79
36	36		1911415-00	10125 ECL TO TTL TRNSLTR ECL 16 P	2	E46,E67
37	37		23028B1-00	B1-01	1	E119
38	38		23029B1-00	B1-01	1	E16
39	39		1913462-00	74S240 OCTAL BUFFER,INVERTING TRI-STA	1	E6
40	40		1210711-02	HANDLE ASSY,MOD DOEHLER-JARVIS	1	
41	41		9000024-01	EYELET, ROLLED FLANGE, .121 OD X .196 LG	12	

42 NOTE: IC SPARES E22,E82,E116,E125

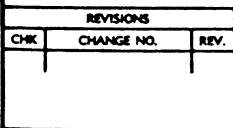
DIGITAL EQUIPMENT CORPORATION	TITLE	PARTS LIST	SIZE	CODE	DOCUMENT NUMBER	REV
MAYNARD, MASSACHUSETTS		CPU DATA PATH D	K	PL	M8227-0-DBF	B



A horizontal number line from 0 to 10. The line is divided into 10 equal segments by vertical tick marks. Above the line, the numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 are written in black. Below the line, the numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 are written in red. An arrow points to the tick mark between 4 and 5.

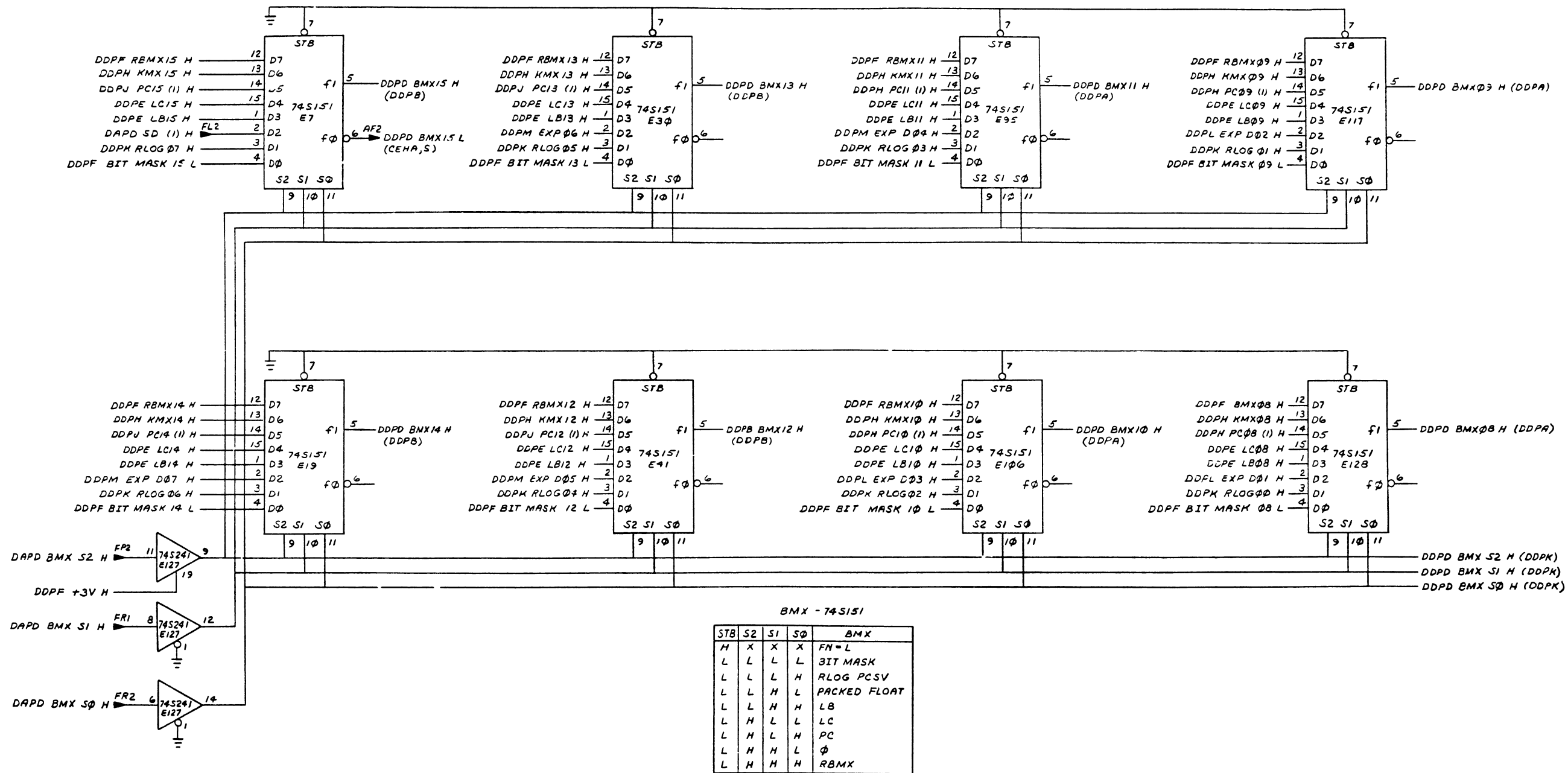


1



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

2 DCS M8227-0-1



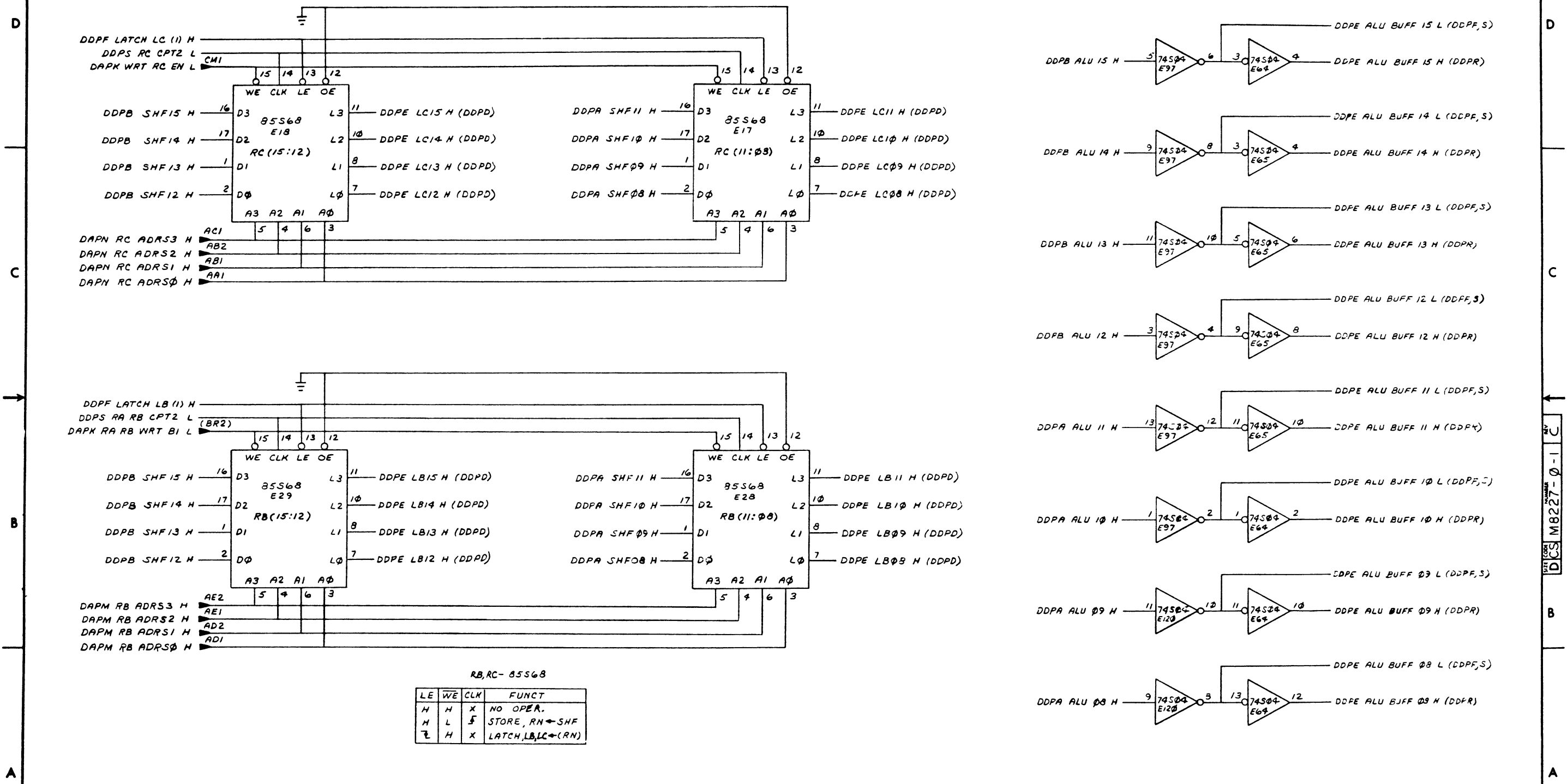
(BMX 15:08)

(SLOT II)

TITLE DATA PATH 15:08 (DDPD) SIZE CODE DCS NUMBER M8227-0-1 REV. C
SCALE SHEET 5 OF 19 DIST.

REVISIONS		
CHK	CHANGE NO.	REV

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

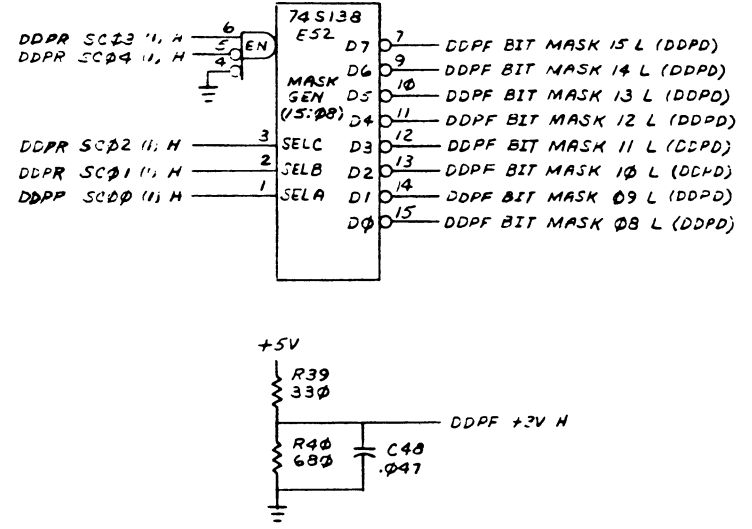
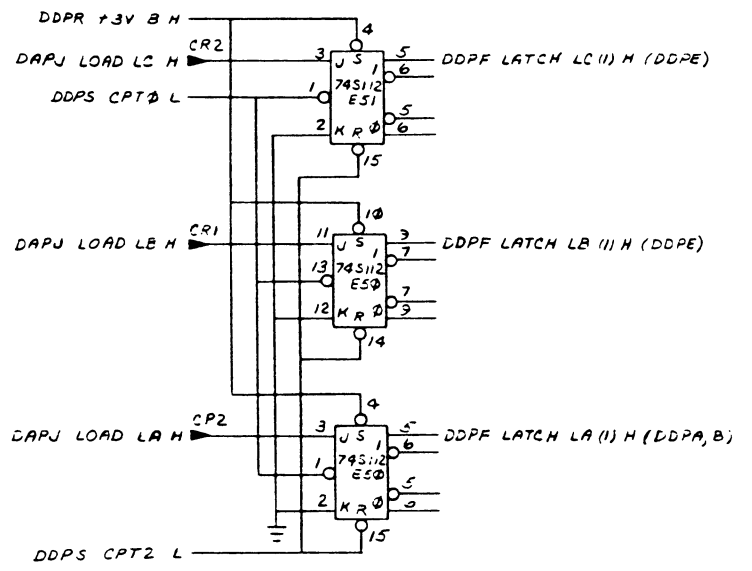
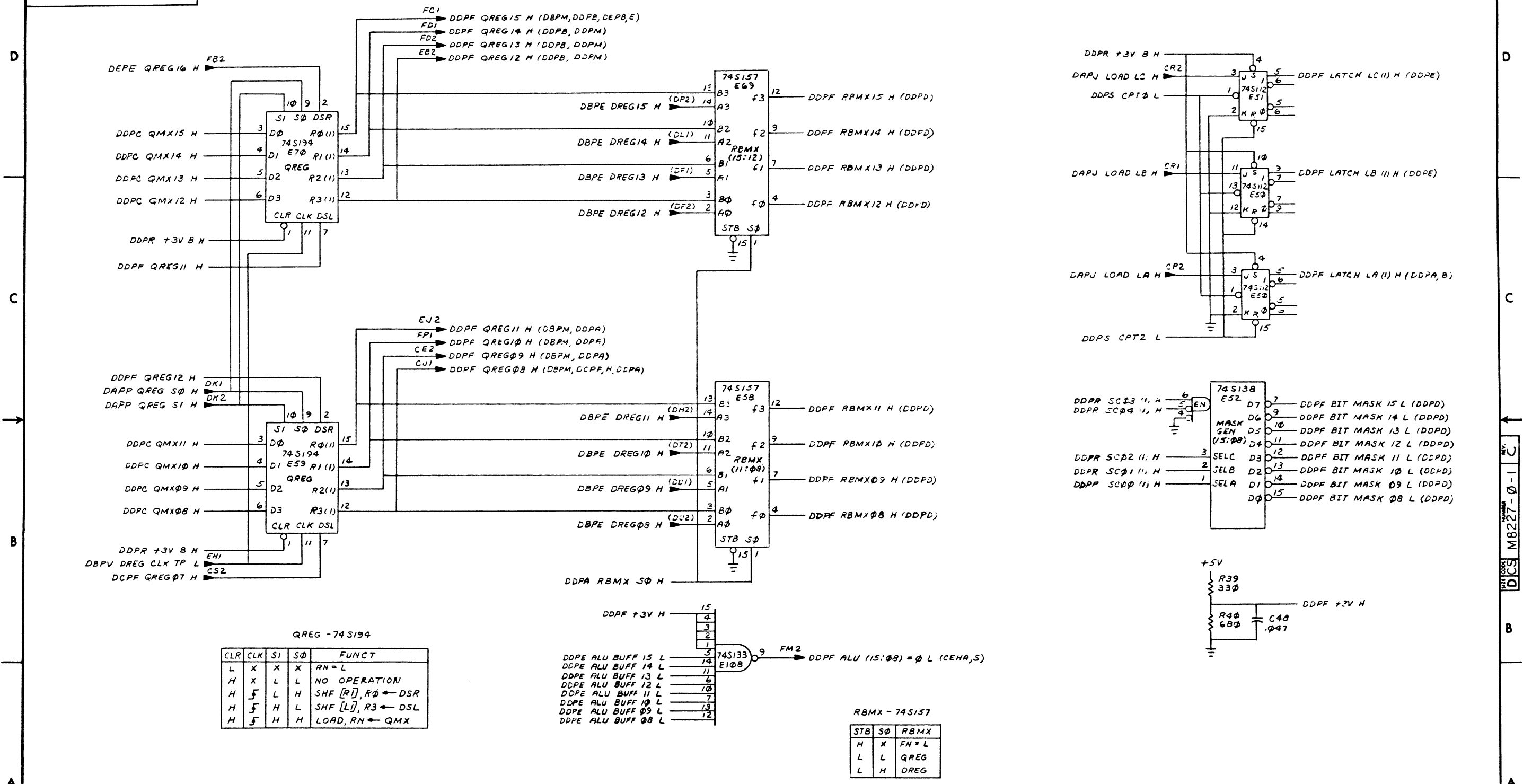


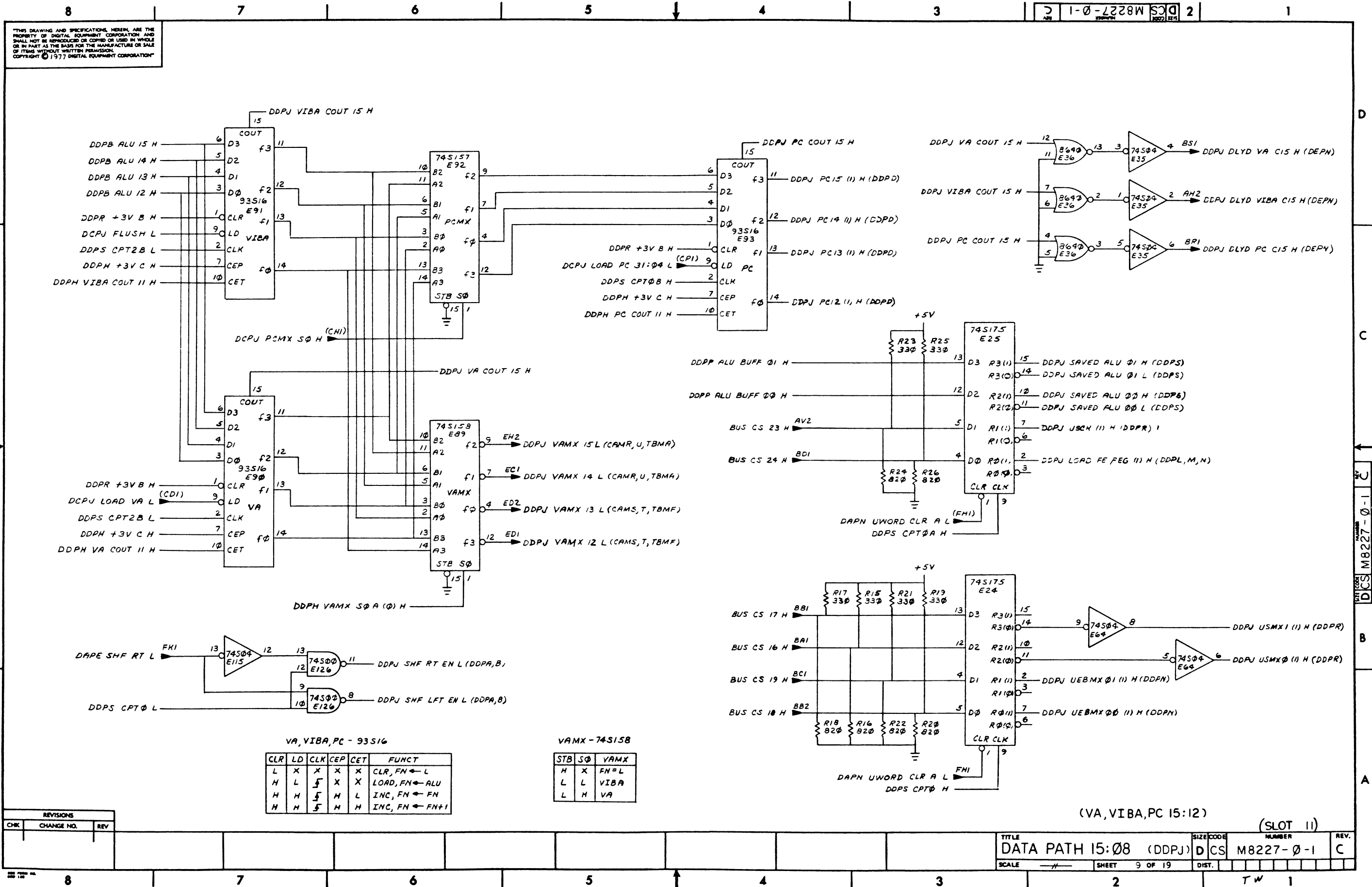
(ALU BUFFERS RB & RC 15:08) (SLOT 11)

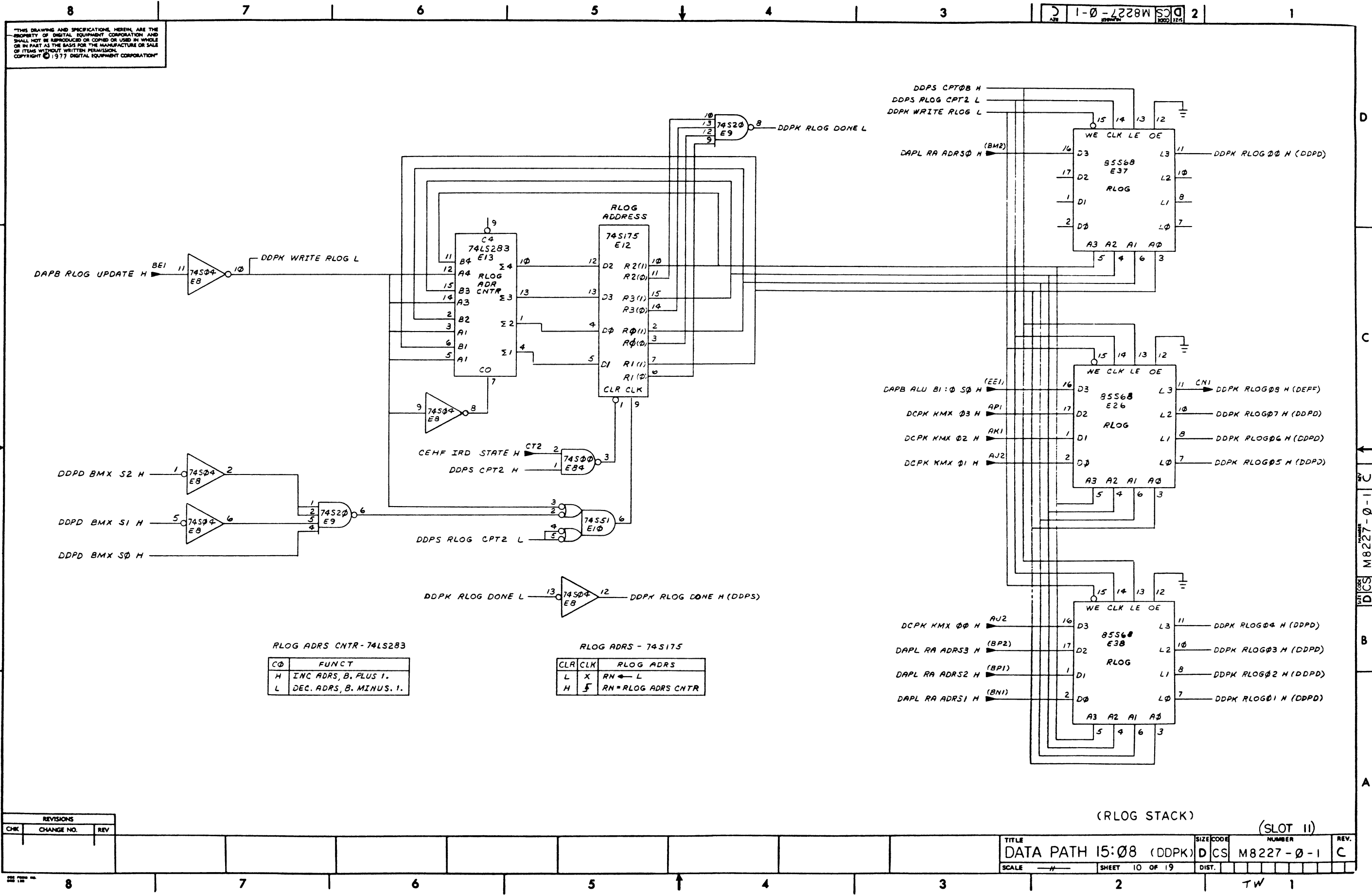
REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE	NUMBER	REV.
DATA PATH 15:08 (DDPE)		DCS	M8227-0-1	C
SCALE	SHEET	DIST.		
	6 OF 19			

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

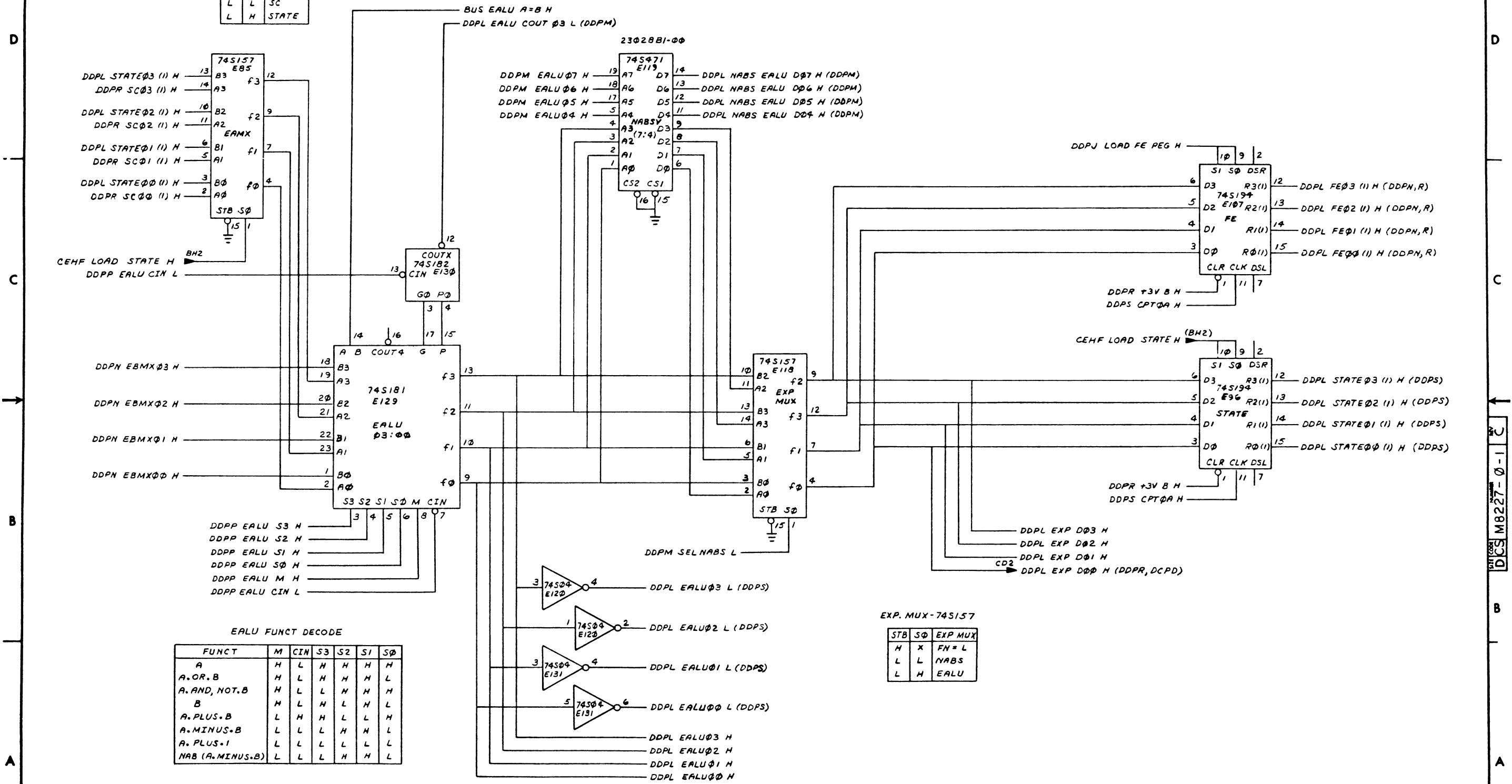






THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

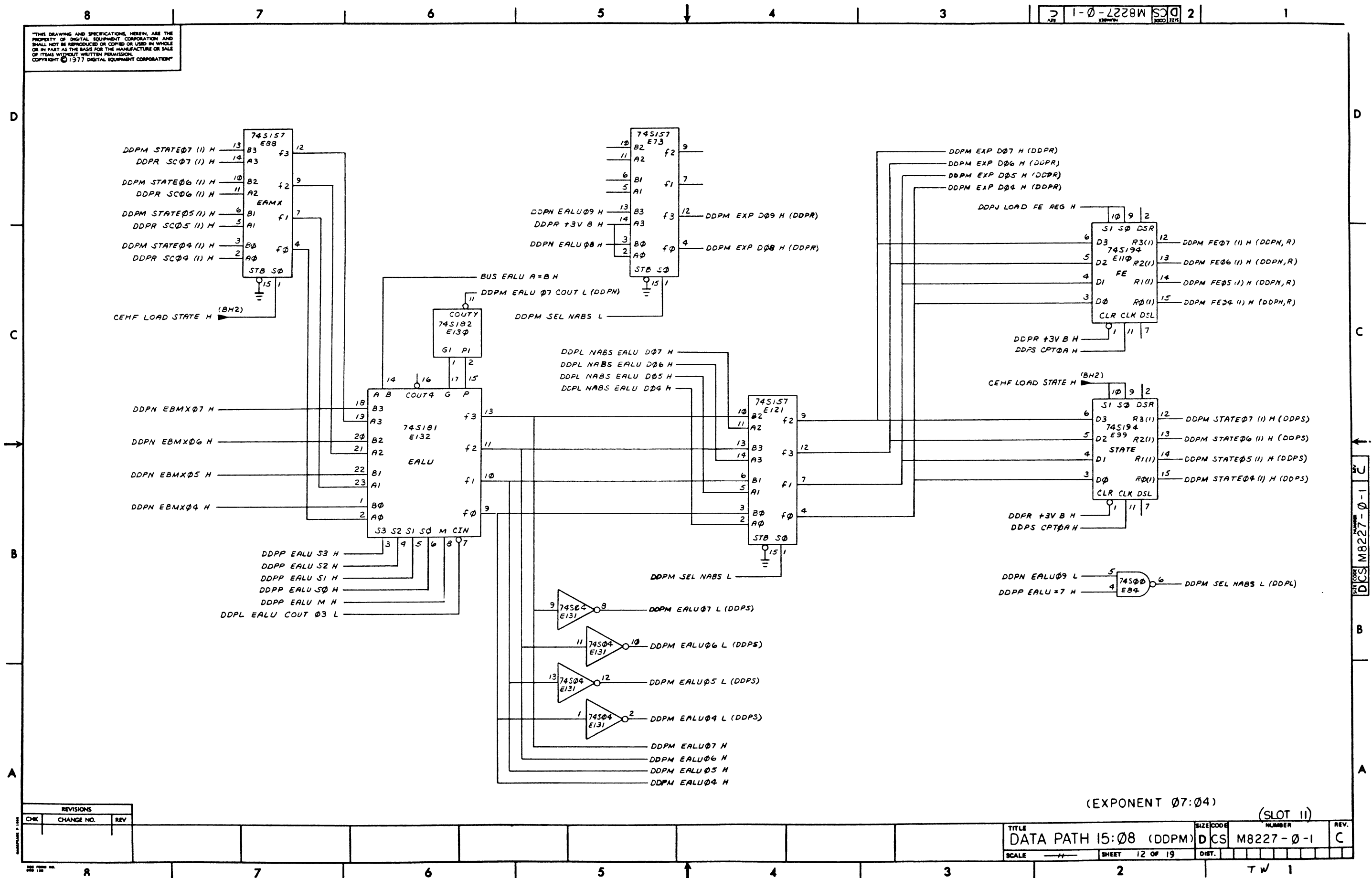
EAMX-74S157		
STB	SΦ	EAMX
H	X	FN = L
L	L	SC
L	H	STATE



EALU FUNCT DECODE						
FUNCT	M	CIN	S3	S2	S1	SΦ
A	H	L	H	H	H	H
A.O.R.B	H	L	H	H	H	L
A.AND,NOT.B	H	L	L	H	H	H
B	H	L	H	L	H	L
A.PLUS.B	L	H	H	L	L	H
A.MINUS.B	L	L	L	H	H	L
A.PLUS.1	L	L	L	L	L	L
NAB (A.MINUS.B)	L	L	L	H	H	L

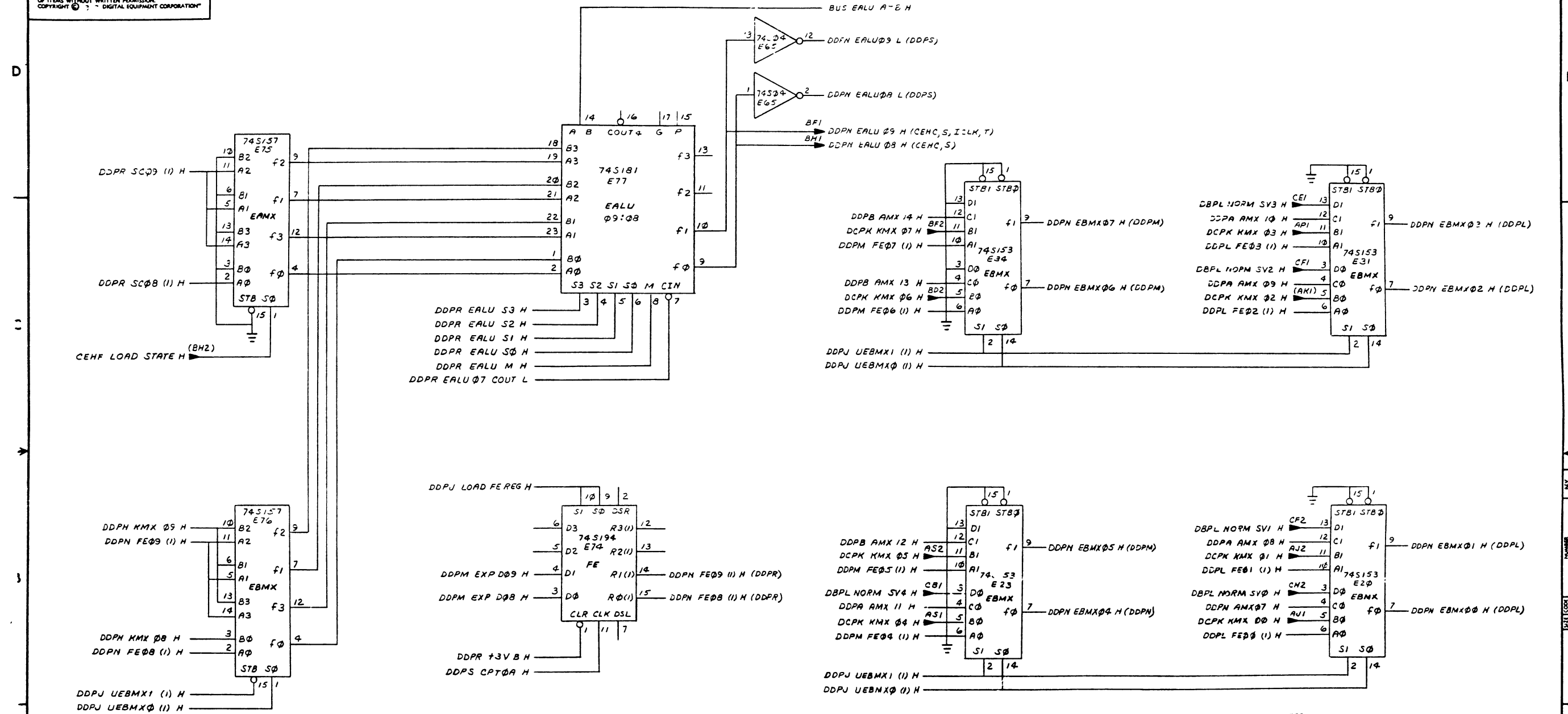
REVISIONS		
CHK	CHANGE NO.	REV.

EXPONENT 03:00 (SLOT 11)			
TITLE	DATA PATH 15:08 (DDPL)	SIZE CODE	D CS
NUMBER	M8227-0-1	REV.	C
SCALE	11	SHEET	11 OF 19



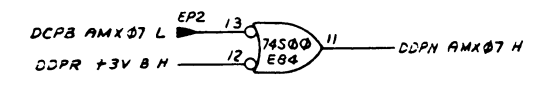
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1970 DIGITAL EQUIPMENT CORPORATION

DCS M8227-0-1



EBMX - 74S153

STBI, Φ	SI	SΦ	EBMX
H	X	X	FN = L
L	L	L	FE
L	L	H	KMX
L	H	L	AMX EXP
L	H	H	NORM SV



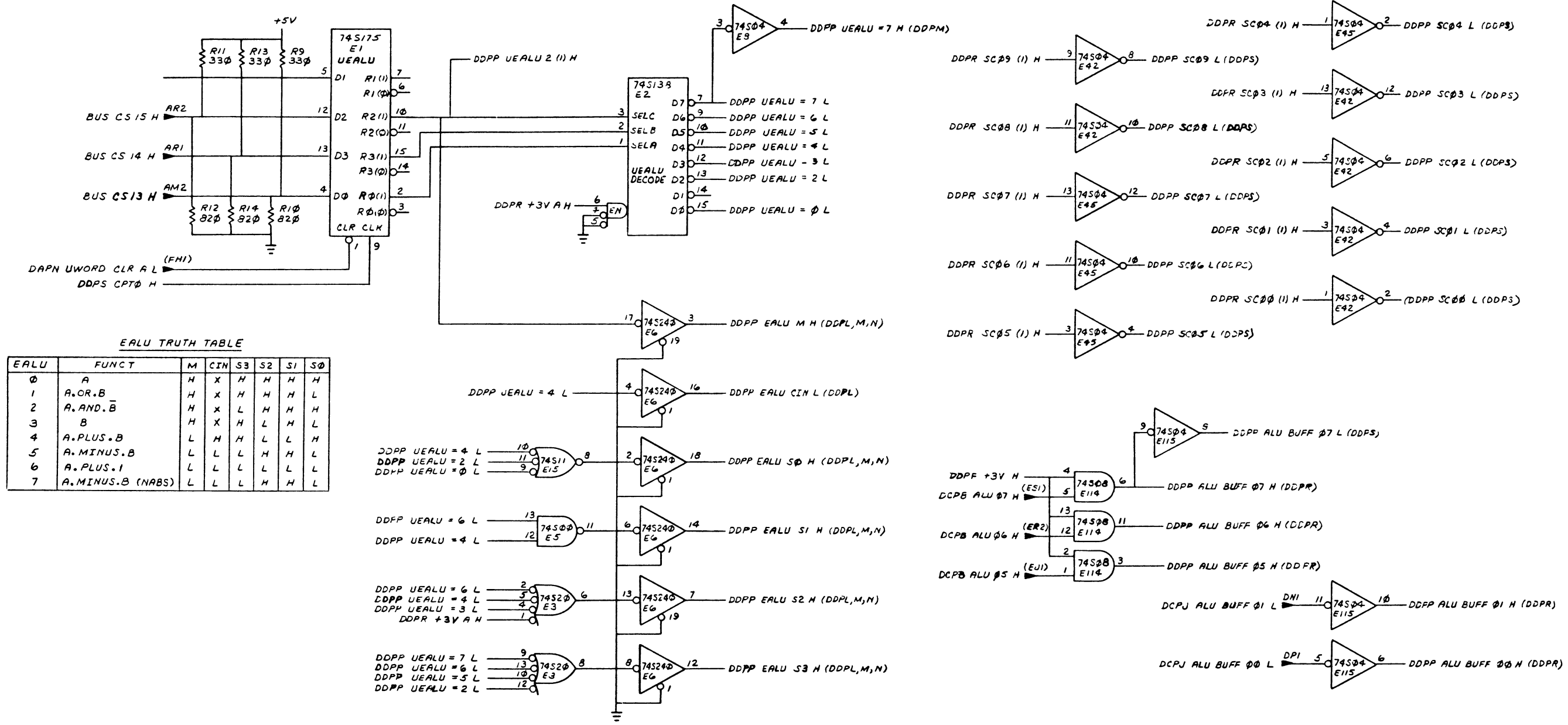
(EXPONENT 9:8 EBMX) (SLOT 11)

REVISIONS

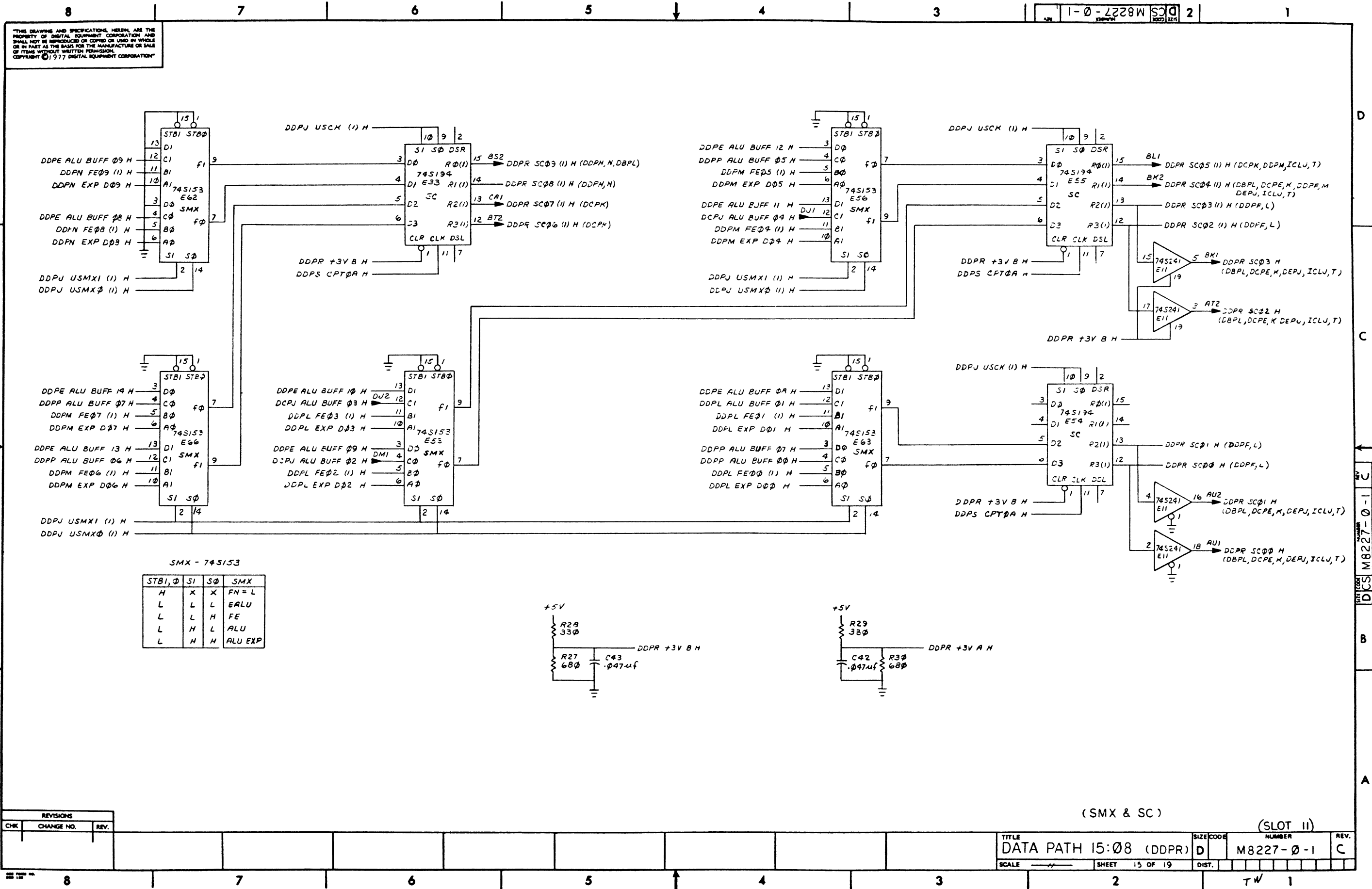
CHK	CHANGE NO	REV.

TITLE	DATA PATH 15:08 (DDPN)	SIZE CODE	DCS	NUMBER	M8227-0-1	REV.	C
SCALE	1:1	SHEET	13 OF 19	DIST.			

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.



CS M8227-0-1

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

SLOW CONSTANT ROM

[illegible]

		SK (15 00) L									
ROM ADDR	UKMX	ROM DATA								SLOW CONSTANT	
		M7	M6	M5	M4	M3	M2	M1	M0		
20		H	H	H	H	H	H	L	L	03 --	
21		H	H	H	H	H	H	H	H	07 --	
22		H	H	H	H	H	H	H	H	08 --	
23		H	H	H	H	H	H	H	H	0D --	
24		H	H	H	L	L	L	L	L	1F --	
25		H	H	H	H	H	H	H	H	00 --	
26		L	L	L	H	H	H	H	H	E0 --	
27		H	H	H	H	H	H	H	H	20 --	
28		L	L	L	L	L	L	L	L	FF --	
29		H	H	H	H	H	H	H	H	00 --	
2A		L	L	L	L	L	L	L	L	SPARE	
2B		L	L	H	L	L	L	L	L	DF --	
2C		L	L	L	L	L	L	L	L	FF --	
2D		L	L	L	L	L	L	L	L	FF --	
2E		H	H	H	H	H	H	H	H	00 --	
2F		L	L	L	L	L	L	L	L	FF --	
30		L	L	L	L	L	L	L	L	FF --	
31		H	H	H	H	H	H	H	H	00 --	
32		H	H	L	L	H	H	H	H	30 --	
33		H	H	H	H	H	H	H	H	00 --	
34		H	H	H	H	H	H	H	H	20 --	
35		H	H	H	H	H	H	H	H	20 --	
36		H	H	H	H	H	H	H	H	00 --	
37		L	L	L	L	L	L	L	L	FF --	
38		L	L	L	L	L	L	L	L	FF --	
39		H	H	H	H	H	H	H	H	00 --	
3A		H	H	H	H	H	H	H	H	00 --	
3B		H	H	H	H	H	H	H	H	20 --	
3C		L	L	L	L	L	L	L	L	FF --	
3D		H	H	H	H	H	H	H	H	00 --	
3E		H	H	H	H	H	H	H	H	00 --	
3F		L	L	H	H	L	H	L	L	CB --	

[illegible][illegible][illegible]

REVISIONS		
CHK	CHANGE NO.	REV.

(SLOW CONSTANT ROM 15:08 23-029BI-00)(SLOT 11)

TITLE		DATA PATH 15.08		SIZE	CODE	NUMBER		REV
		D	CS	M8227 - Ø - 1				C
SCALE	SHEET 17 OF 19		DWT					

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

NABS ROM

NABS EALU D(07:00) H

ROM ADDR	EALU	ROM DATA								DECIMAL VALUE
		M7	M6	M5	M4	M3	M2	M1	M0	
00		L	L	L	L	L	L	L	L	-0
01		H	H	H	H	H	H	H	H	-1
02		H	H	H	H	H	H	H	L	-2
03		H	H	H	H	H	H	L	H	-3
04		H	H	H	H	H	H	L	L	-4
05		H	H	H	H	H	L	H	H	-5
06		H	H	H	H	H	L	H	L	-6
07		H	H	H	H	H	L	L	H	-7
08		H	H	H	H	H	L	L	L	-8
09		H	H	H	H	L	H	H	H	-9
0A		H	H	H	H	L	H	H	L	-10
0B		H	H	H	H	L	H	L	H	-11
0C		H	H	H	H	L	H	L	L	-12
0D		H	H	H	H	L	L	H	H	-13
0E		H	H	H	H	L	L	H	L	-14
0F		H	H	H	H	L	L	L	H	-15
10		H	H	H	H	L	L	L	L	-16
11		H	H	H	L	H	H	H	H	-17
12		H	H	H	L	H	H	H	L	-18
13		H	H	H	L	H	H	L	H	-19
14		H	H	H	L	H	H	L	L	-20
15		H	H	H	L	H	L	H	H	-21
16		H	H	H	L	H	L	H	L	-22
17		H	H	H	L	H	L	L	H	-23
18		H	H	H	L	H	L	L	L	-24
19		H	H	H	L	L	H	H	H	-25
1A		H	H	H	L	L	H	H	L	-26
1B		H	H	H	L	L	H	L	H	-27
1C		H	H	H	L	L	H	L	L	-28
1D		H	H	H	L	L	L	H	H	-29
1E		H	H	H	L	L	L	H	L	-30
1F		H	H	H	L	L	L	L	H	-31

NABS EALU D(07:00) H

ROM ADDR	EALU	ROM DATA								DECIMAL VALUE
		M7	M6	M5	M4	M3	M2	M1	M0	
20		H	H	H	L	L	L	L	L	-32
21		H	H	L	H	H	H	H	H	-33
22		H	H	L	H	H	H	H	L	-34
23		H	H	L	H	H	L	H	H	-35
24		H	H	L	H	H	L	L	L	-36
25		H	H	L	H	H	L	H	H	-37
26		H	H	L	H	H	L	H	L	-38
27		H	H	L	H	H	L	L	H	-39
28		H	H	L	H	H	L	L	L	-40
29		H	H	L	H	L	H	H	H	-41
2A		H	H	L	H	L	H	H	L	-42
2B		H	H	L	H	L	H	L	H	-43
2C		H	H	L	H	L	H	L	L	-44
2D		H	H	L	H	L	L	H	H	-45
2E		H	H	L	H	L	L	H	L	-46
2F		H	H	L	H	L	L	L	H	-47
30		H	H	L	H	L	L	L	L	-48
31		H	H	L	L	H	H	H	H	-49
32		H	H	L	L	H	H	H	L	-50
33		H	H	L	L	H	H	L	H	-51
34		H	H	L	L	H	H	L	L	-52
35		H	H	L	L	H	L	H	H	-53
36		H	H	L	L	H	L	H	L	-54
37		H	H	L	L	H	L	L	H	-55
38		H	H	L	L	H	L	L	L	-56
39		H	H	L	L	L	H	H	H	-57
3A		H	H	L	L	L	H	H	L	-58
3B		H	H	L	L	L	H	L	H	-59
3C		H	H	L	L	L	H	L	L	-60
3D		H	H	L	L	L	L	H	H	-61
3E		H	H	L	L	L	L	H	L	-62
3F		H	H	L	L	L	L	L	H	-63

NABS EALU D(07:00) H

ROM ADDR	EALU	ROM DATA								DECIMAL VALUE
		M7	M6	M5	M4	M3	M2	M1	M0	
40		H	H	L	L	L	L	L	L	-64
41		H	L	H	H	H	H	H	H	-65
42		H	L	H	H	H	H	H	L	-66
43		H	L	H	H	H	H	L	H	-67
44		H	L	H	H	H	H	L	L	-68
45		H	L	H	H	H	L	H	H	-69
46		H	L	H	H	H	L	H	L	-70
47		H	L	H	H	H	L	L	H	-71
48		H	L	H	H	H	L	L	L	-72
49		H	L	H	H	L	H	H	H	-73
4A		H	L	H	H	L	H	H	L	-74
4B		H	L	H	H	L	H	L	H	-75
4C		H	L	H	H	L	H	L	L	-76
4D		H	L	H	H	L	L	H	H	-77
4E		H	L	H	H	L	L	H	L	-78
4F		H	L	H	H	L	L	L	H	-79
50		H	L	H	H	L	L	L	L	-80
51		H	L	H	L	H	H	H	H	-81
52		H	L	H	L	H	H	H	L	-82
53		H	L	H	L	H	H	L	H	-83
54		H	L	H	L	H	H	L	L	-84
55		H	L	H	L	H	L	H	H	-85
56		H	L	H	L	H	L	H	L	-86
57		H	L	H	L	H	L	L	H	-87
58		H	L	H	L	H	L	L	L	-88
59		H	L	H	L	L	H	H	H	-89
5A		H	L	H	L	L	H	H	L	-90
5B		H	L	H	L	L	H	L	H	-91
5C		H	L	H	L	L	H	L	L	-92
5D		H	L	H	L	L	L	H	H	-93
5E		H	L	H	L	L	L	H	L	-94
5F		H	L	H	L	L	L	L	H	-95

NABS EALU D(07:00) H

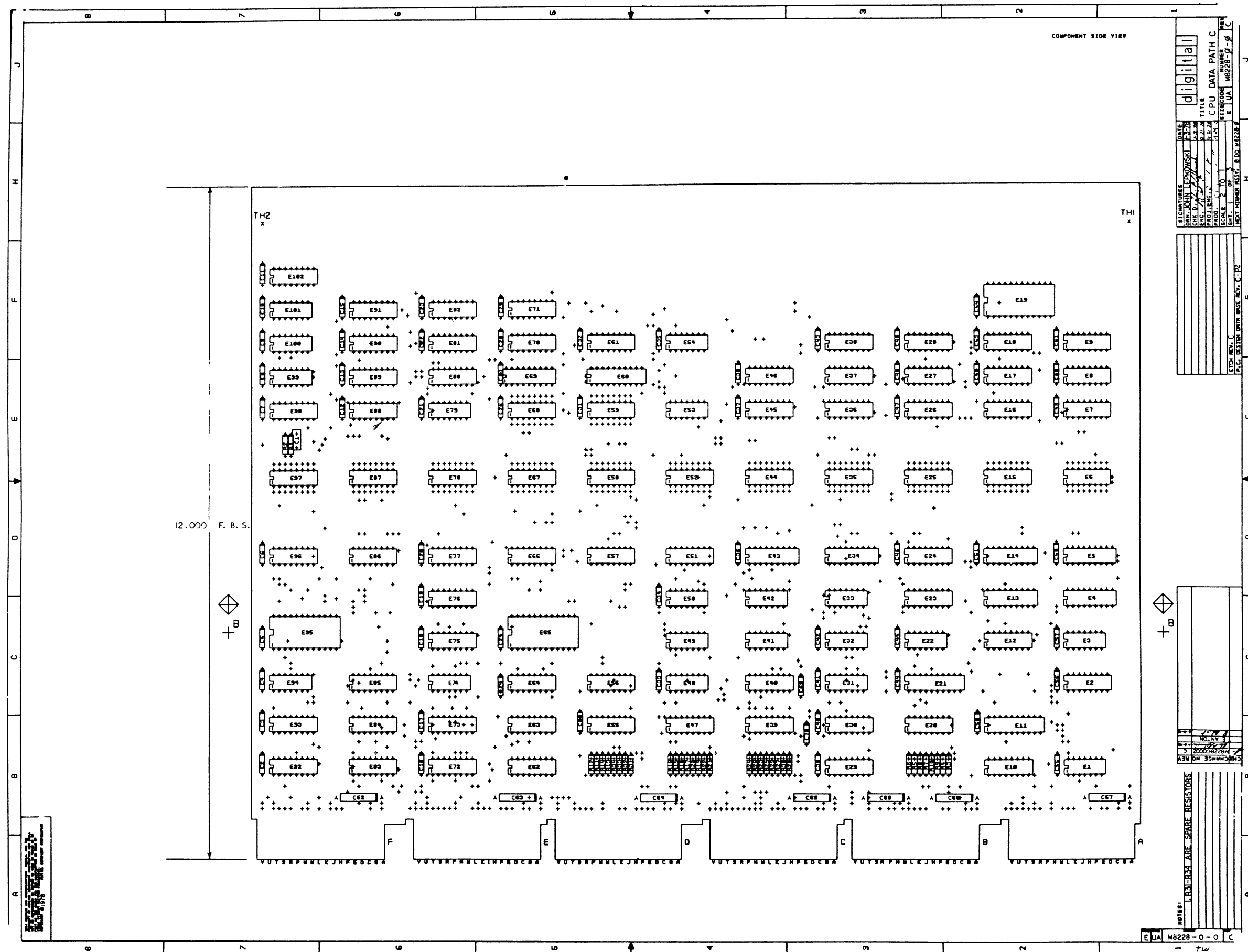
ROM ADDR	EALU	ROM DATA								DECIMAL VALUE
		M7	M6	M5	M4	M3	M2	M1	M0	
60		H	L	H	L	L	L	L	L	-96
61		H	L	L	H	H	H	H	H	-97
62		H	L	L	H	H	H	H	L	-98
63		H	L	L	H	H	H	L	H	-99
64		H	L	L	H	H	H	L	L	-100
65		H	L	L	H	H	L	H	H	-101
66		H	L	L	H	H	L	H	L	-102
67		H	L	L	H	H	L	L	H	-103
68		H	L	L	H	H	L	L	L	-104
69		H	L	L	H	L	H	H	H	-105
6A		H	L	L	H	L	H	H	L	-106
6B		H	L	L	H	L	H	L	H	-107
6C		H	L	L	H	L	H	L	L	-108
6D		H	L	L	H	L	L	H	H	-109
6E		H	L	L	H	L	L	H	L	-110
6F		H	L	L	H	L	L	L	H	-111
70		H	L	L	H	L	L	L	L	-112
71		H	L	L	L	H	H	H	H	-113
72		H	L	L	L	H	H	H	L	-114
73		H	L	L	L	H	H	L	H	-115
74		H	L	L	L	H	H	L	L	-116
75		H	L	L	L	H	L	H	H	-117
76		H	L	L	L	H	L	H	L	-118
77		H	L	L	L	H	L	L	H	-119
78		H	L	L	L	H	L	L	L	-120
79		H	L	L	L	L	H	H	H	-121
7A		H	L	L	L	L	H	H	L	-122
7B		H	L	L	L	L	H	L	H	-123
7C		H	L	L	L	L	H	L	L	-124
7D		H	L	L	L	L	L	H	H	-125
7E		H	L	L	L	L	L	H	L	-126
7F		H	L	L	L	L	L	L	H	-127

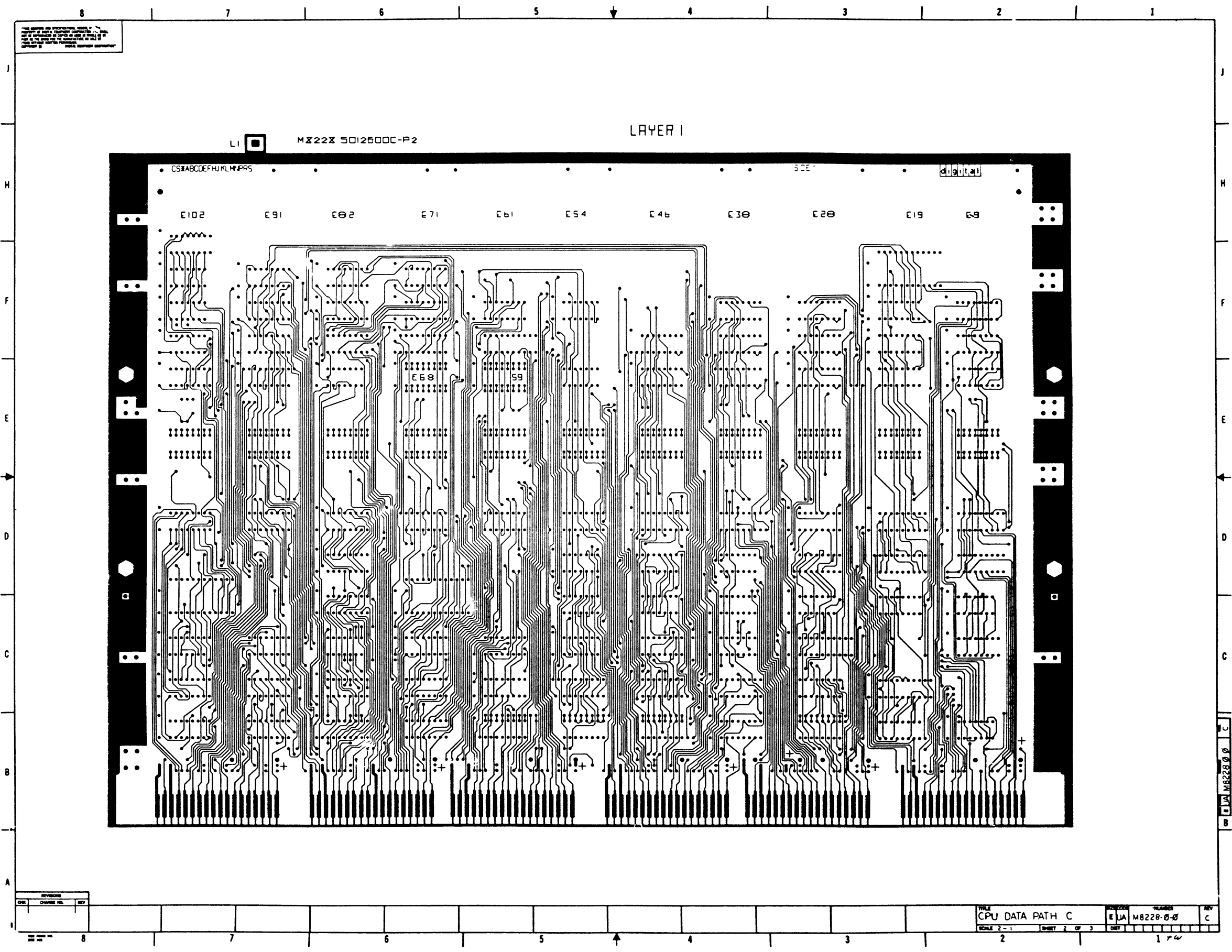
REVISIONS		
CHK	CHANGE NO.	REV

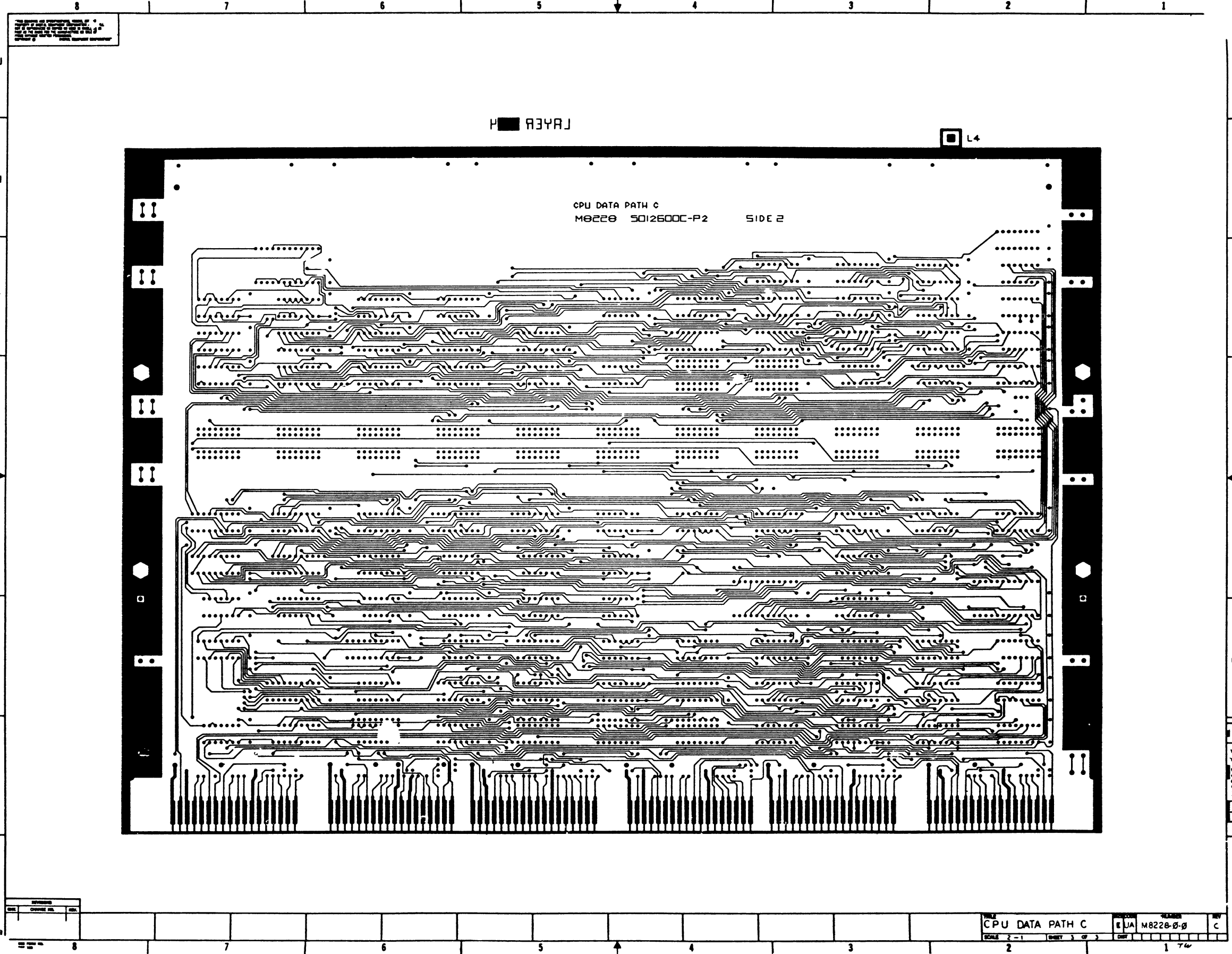
(EALU NABS ROM 23-028BI-00) (SLOT 11)

TITLE	DATA PATH 15:08	SIZE CODE	D CS	NUMBER	M8227-0-1	REV.	C
SCALE	SHEET 18 OF 19	DIST.					

TW 1







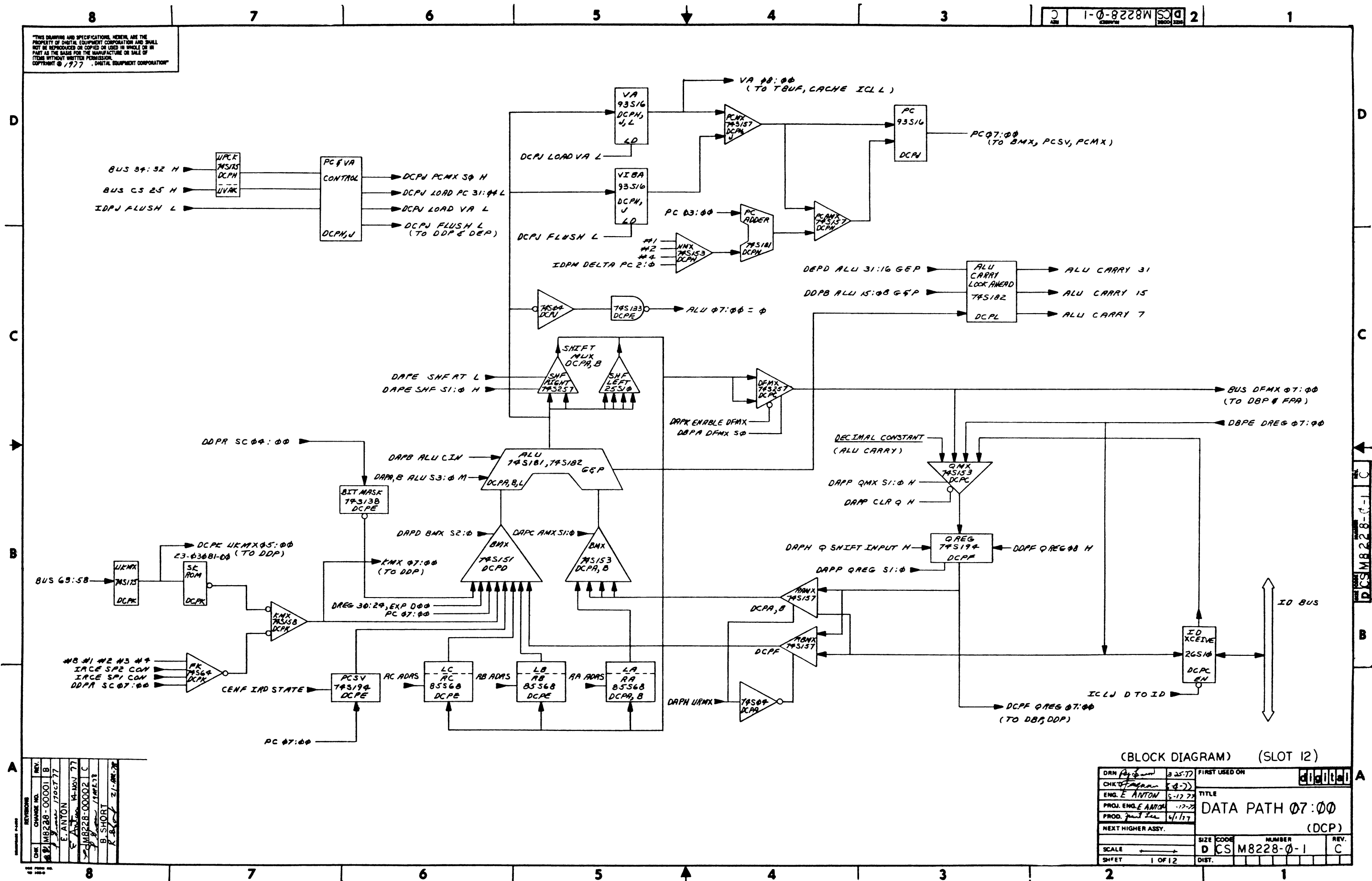
LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	E-MU-5012600-0-0	5012600-00	M8228	1	
2	2		1910534-00	74S04 INVERTER GATE-HEX 1IN	6	E22,E31,E54,E99,E100,E101
3	3		1912389-00	74S08 AND GATE-QUAD 2IN,FDS	14	E53
4	4		1910536-00	74S10 NAND GATE-TRIPLE 3IN	1	E33
5	5		1910537-00	74S11 AND GATE-TRIPLE 3INPUT	2	E49,E94
6	6		1910542-00	74S64 A-O-I XPRR GATE,4-2-3-2	14	E1,E41,E42,E48,E50
7	7		1910545-00	74S112 FF-JK DUAL,EDGE TRIGGER	2	E12,E23
8	8		1911983-00	74S133 NAND GATE-POSITIVE 13IN	1	E102
9	9		1911675-00	74S138 DECODER-THREE INPUT	1	E24
10	10		1910956-00	74S151 MUX 1 OF 8	8	E16,E17,E26,E27,E36,E37,E45, CONT E46
11	11		1910547-00	74S153 MUX 1 OF 4 (DUAL)	10	E9,E18,E57,E61,E66,E71,E88, CONT E90,E91,E98
12	12		1910548-00	74S157 MUX 1 OF 2 (QUAD)	7	E8,E70,E73,E80,E81,E84,E89
13	13		1910549-00	74S158 MUX 1 OF 2 (QUAD)	2	E2,E10
14	14		1910957-00	74S175 FF-D QUAD COMMON CLOCK	3	E20,E47,E55
15	15		1910531-00	DEC 74S181 ALU-4BIT	3	E19,E65,E95
16	16		1912097-00	SN 74S182 LOOK AND CARRY GEN	2	E64,E85
17	17		1910552-00	74S194 SHIFT REG.,4BIT RIGHT/LEFT	4	E28,E38,E69,E82
18	18		1913462-00	74S240 OCTAL BUFFER,INVERTING TRI-STA	1	E21
19	19		1913493-00	74S241 OCTAL BUFFER,TRI-STATE	1	E60
20	20		1911641-00	SN 74S257 MUX,QUAD 2 TO 1	4	E56,E62,E77,E86
21	21		1911415-00	10125 ECL TO TTL TRNSLTR ECL	16 P	E39,E40
22	22		1913788-00	26S10 TRANSCEIVER,BUS,QUAD	2	E29,E30
23	23		1913294-00	93S16 COUNTER,SYNCH UP BINARY	8	E7,E63,E72,E75,E83,E92,E93,E51
24	24	BLANK			0	
25	25		1912586-00	85S68 REGISTER,64BIT EDGE TRIG,TRIST	6	E4,E5,E13,E14,E34,E43
26	26		1912693-00	25S10 SHIFTER,4BIT TRI-STATE	2	E76,E96
27	27		23030B1-00	B1-01	1	E11
28	28		1300247-00	120 1/4W 5% CC (13-00	4	R25,R26,R29,R30

REVISION HISTORY			VARIATIONS FOR THIS ASSY.	FIRST USED ON:	DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
CHK	ECD NO	REV		MADE BY:	DATE:	TITLE		
PG	00002	C	00	F.SMART	20-APR-78	PARTS LIST		
				CHECKED:	DATE:	DATA PATH		
				DSN.ENG.:	DATE:			
				PROD.:	DATE:	SIZE	CODE	DOCUMENT NUMBER
				RESP.ENG.:	DATE:	K	PL	M8228-0-DBP
								REV
								EDIT#
						ASSY.NO.:		2
*THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT 1978. DIGITAL EQUIPMENT CORPORATION *								

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION				QTY	REFERENCE DESIGNATORS
29	29		1300250-00	150	1/4W	5%	CC	(13-00	4 R23,R24,R27,R28
30	30		1300295-00	330	1/4W	5%	CC	(13-00	11 R1,R3,R5,R7,R9,R11,R13,R15,
								CONT	R17,R19,R21
31	31		1301424-00	680	1/4W	5%	CC	(13-00	1 R2
32	32		1301775-00	820	1/4W	5%	CC	(13-00	10 R4,R6,R8,R10,R12,R14,R16,R18,
								CONT	R20,R22
33	33		1012084-01	8	MFD	25V	G% 30D AL EL	(10-12	7 C62-C68
34	34		1012784-00	.047	MFD	50V	X% CER. #		63 C1,C2-C61,C69,C70
35	35		1910532-00		74S00	NAND	GATE-QUAD 2IN		3 E3,E74,E79
36	36		1210711-02	HANDLE ASSY,MOD DOEHLER-JARVIS					1
37	37		9000024-01	EYELET, ROLLED FLANGE, .121 OD X .196 LG					12

38 NOTE: E6,E15,E25,E44,E52,E58,E59,E67,E78,E87,E97,E68,E35,E32 ARE SPARE I.C. S

! DIGITAL EQUIPMENT CORPORATION !	! TITLE !	PARTS LIST	! SIZE !	! CODE !	DOCUMENT NUMBER	! REV !
! MAYNARD, MASSACHUSETTS !	! DATA PATH !		! K !	! FL !	M8228-0-DBP	! C !

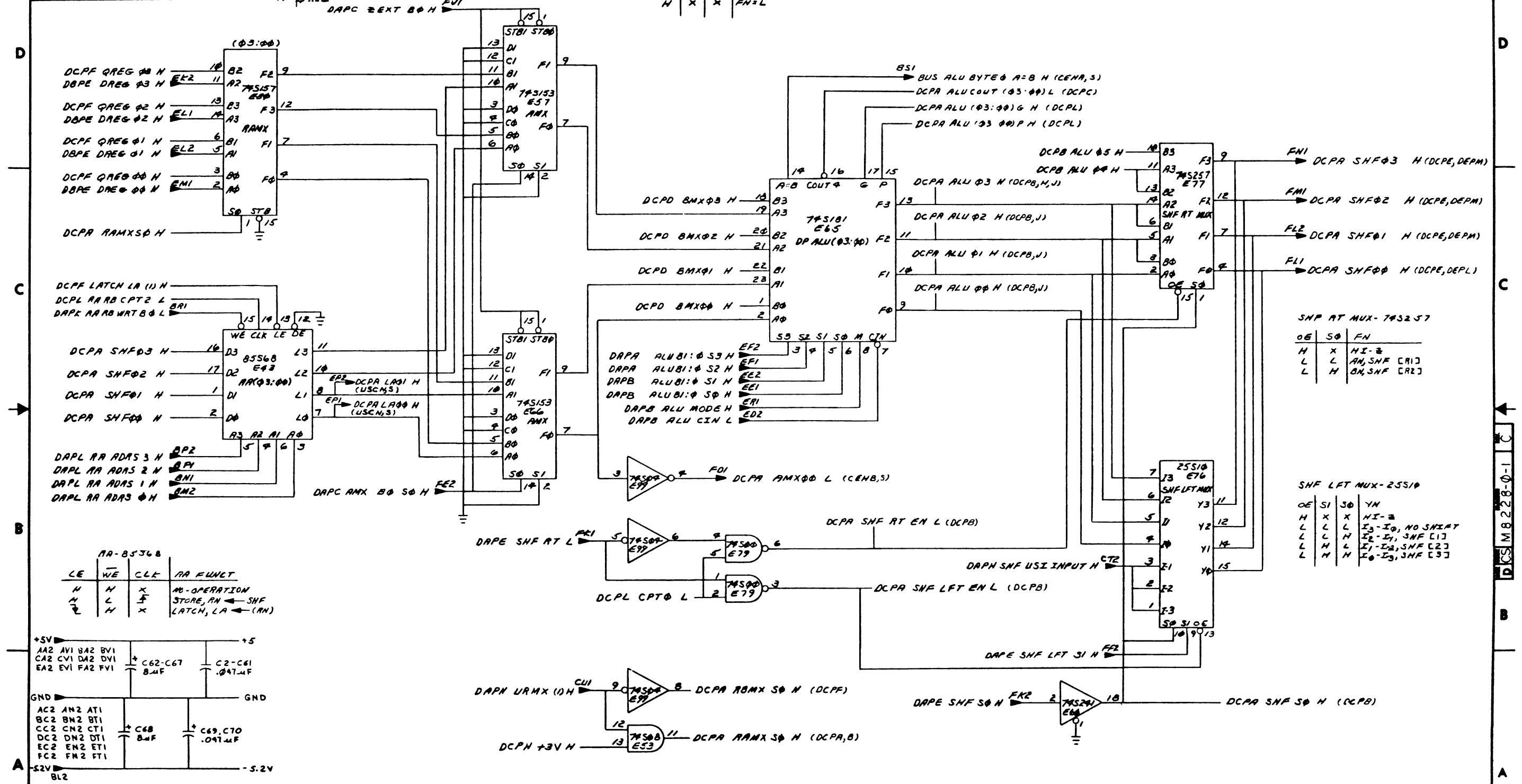


THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION

RAMX-79S157

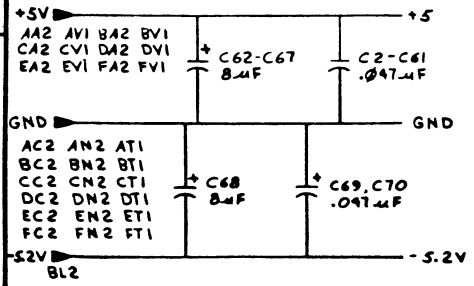
AMX-79S153

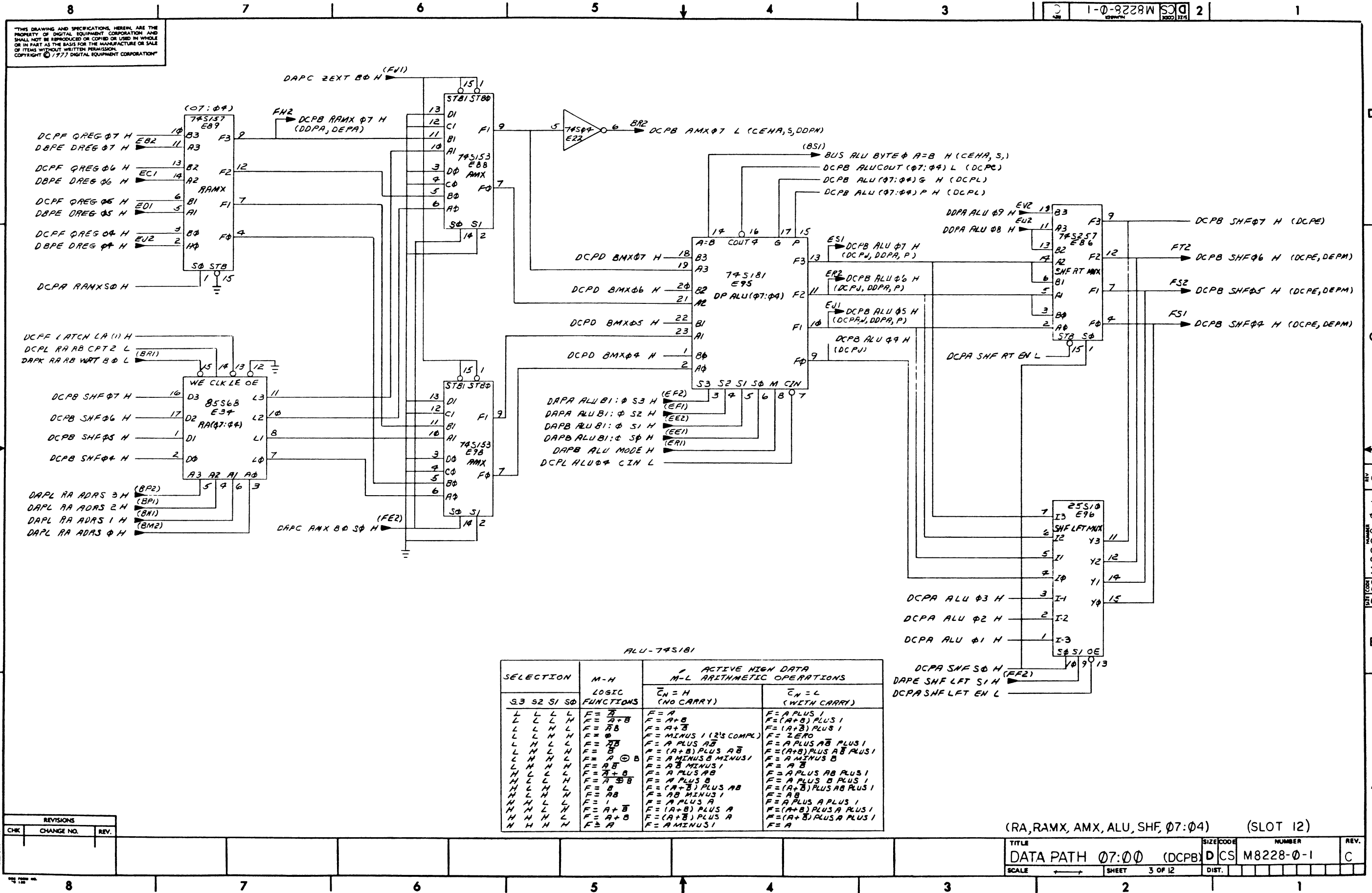
STB	SI	SO	FN
L	L	L	LA
L	L	H	RAMX
H	X	X	FN=L

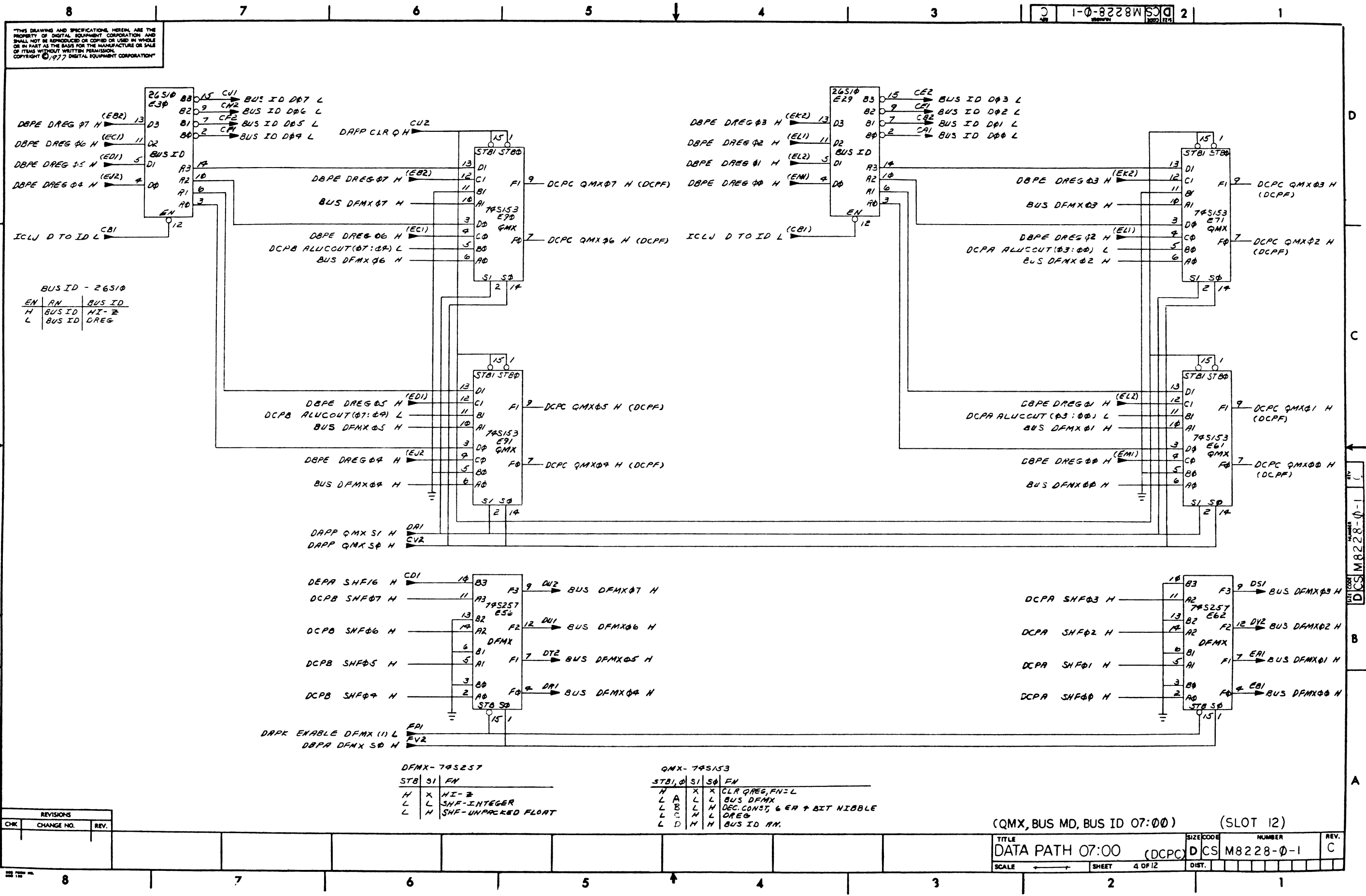


AA-85368

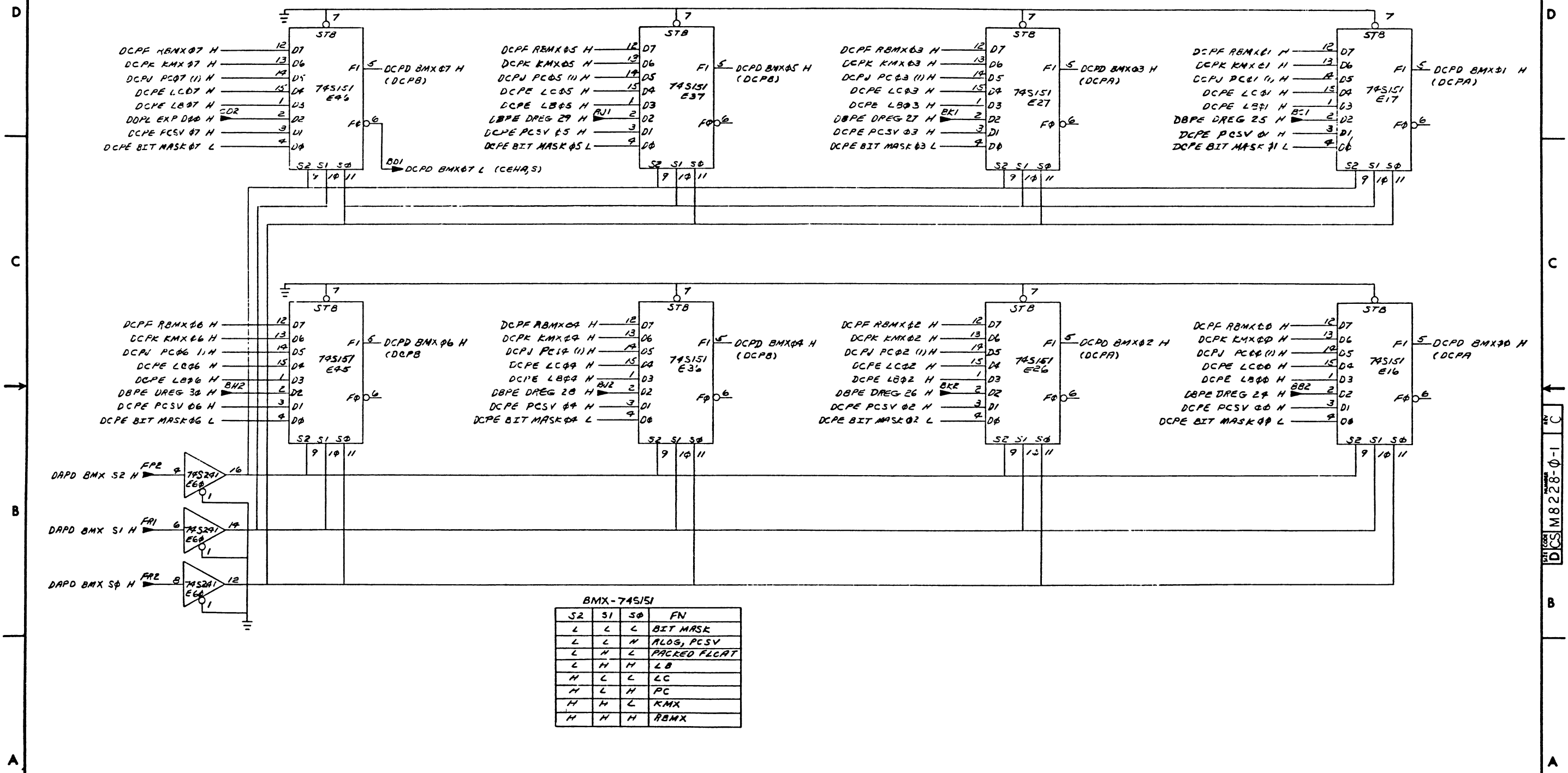
LE	WE	CLK	AA FUNKT
H	H	X	NO OPERATION
H	L	X	STORE, AN ← SHF
L	H	X	LATCH, LA ← (AN)





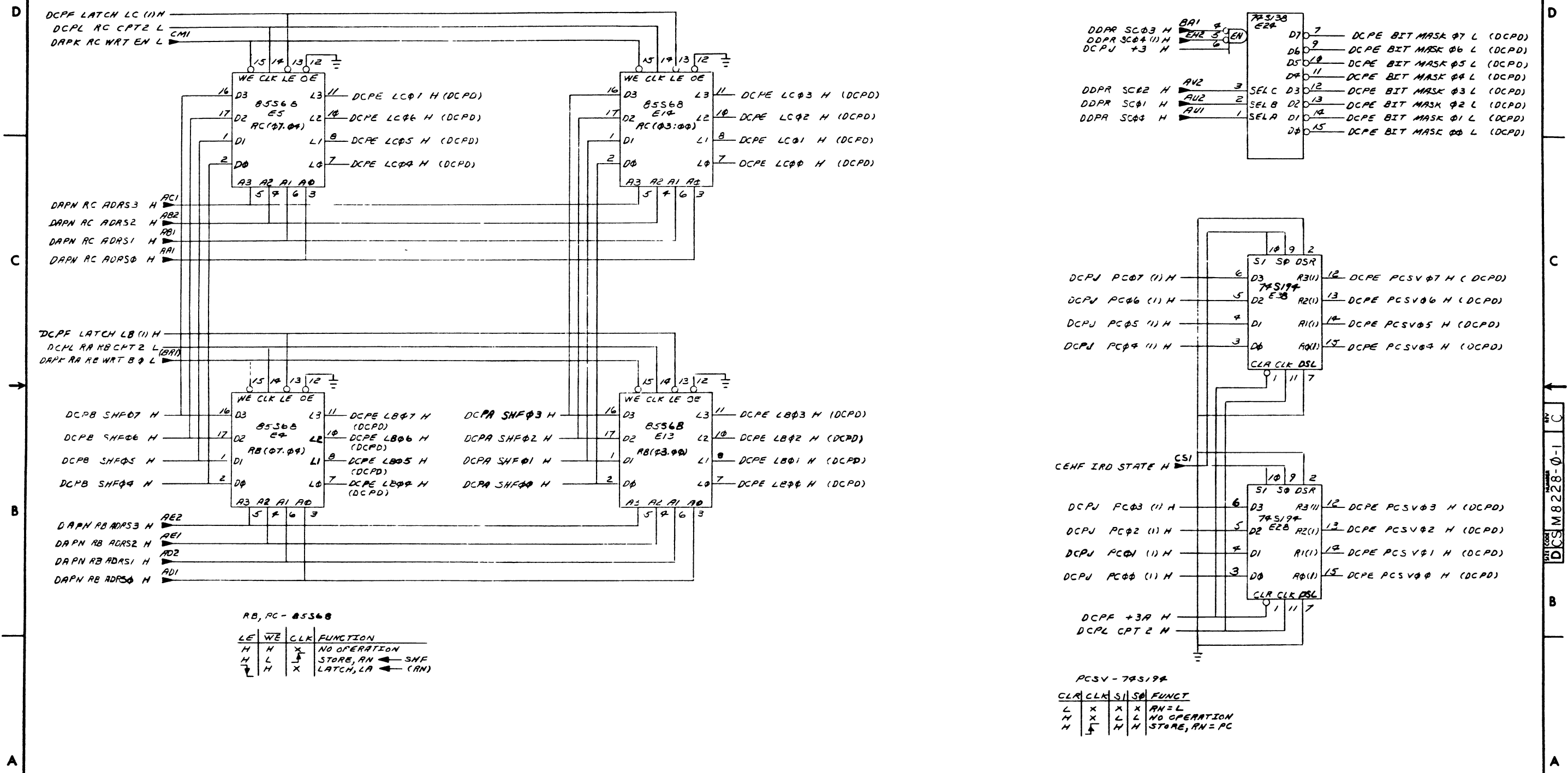


"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



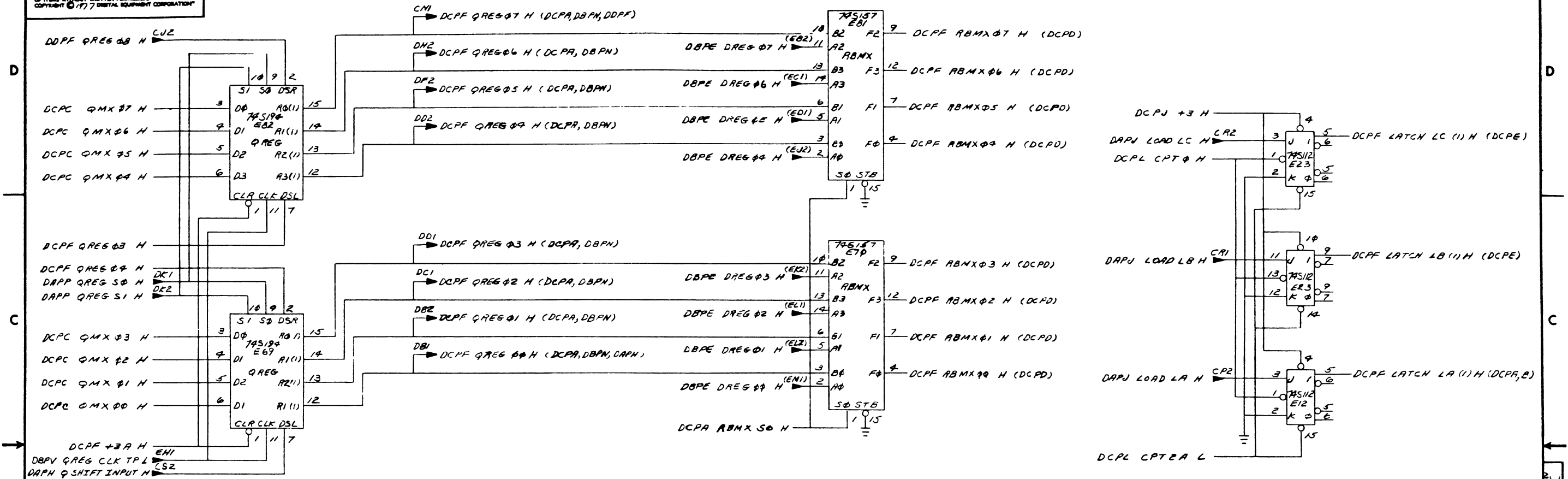
REVISIONS		
CHK	CHANGE NO.	REV.

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO.	REV.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

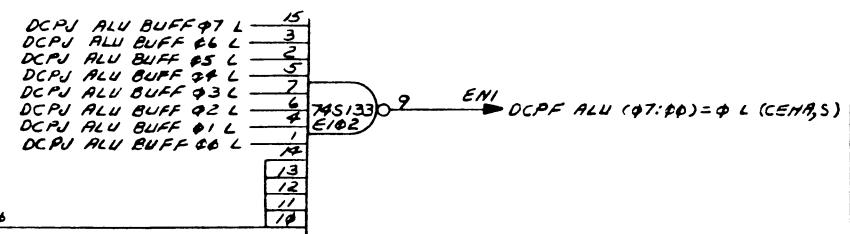
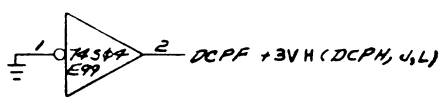
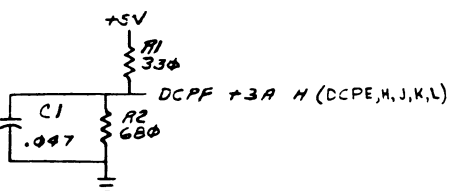


QREG - 74S194

CLR	CLK	SI	SO	AN (FUNCT)
L	X	X	X	DREG ← L
H	5	L	L	NO OPERATION
H	5	L	H	SHF RT WITH DSR
H	5	H	L	SHF LFT WITH DSL
H	5	H	H	LOAD, AN = QMX

RBMX - 74S157

SO	FN
L	DREG
H	QREG



REVISIONS

CHK	CHANGE NO.	REV.

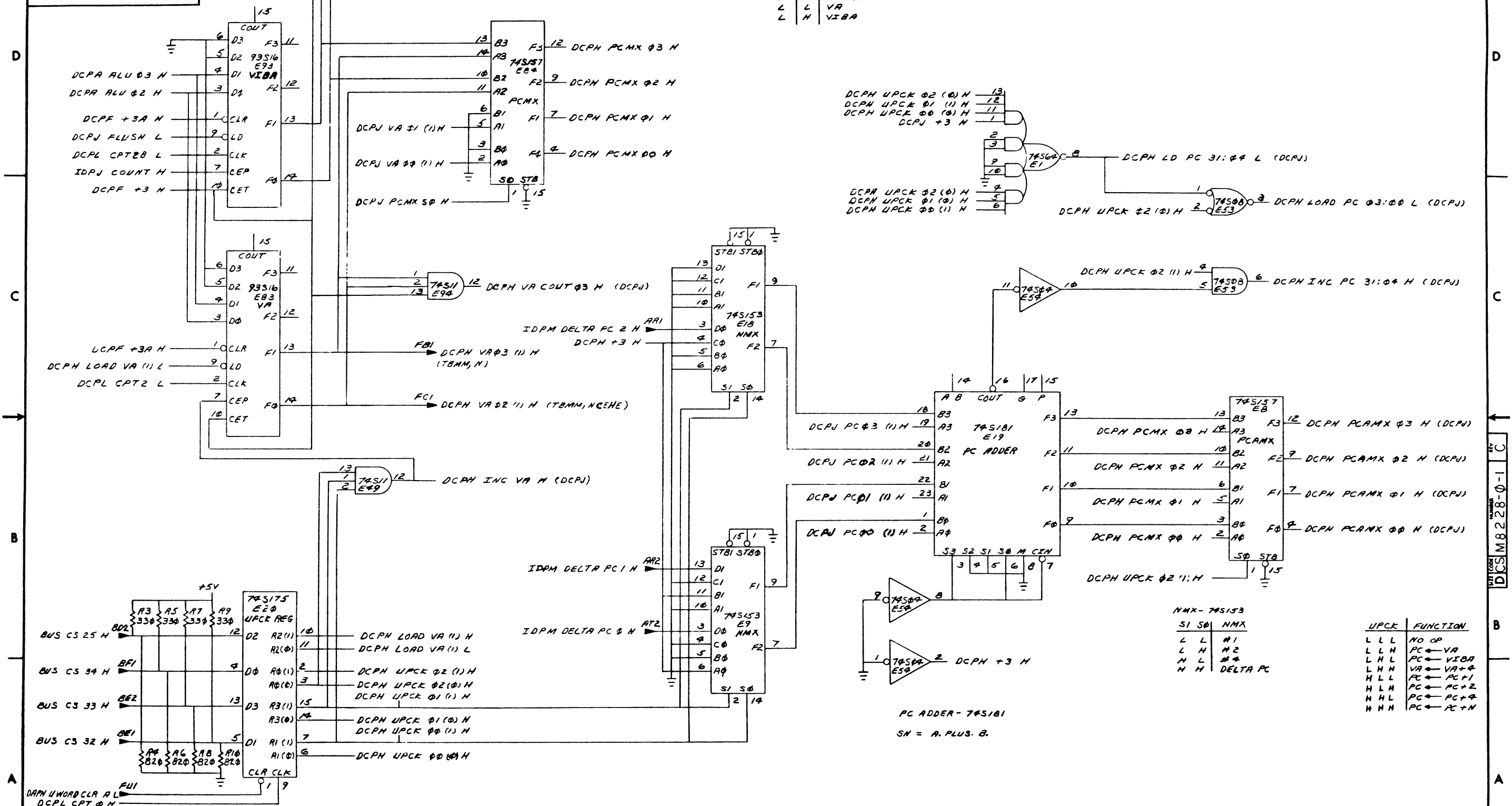
(LATCH CONTROL, QREG, RBMX 07:00 (SLOT 12))

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 07:00 (DCPF)	DCS	M8228-0-1	C
SCALE	SHEET	7 OF 12	DIST.

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

PCMX - 74S157

STB	S0	FN
H	X	FN = L
L	L	VA
L	H	VIBA



NMX - 74S153

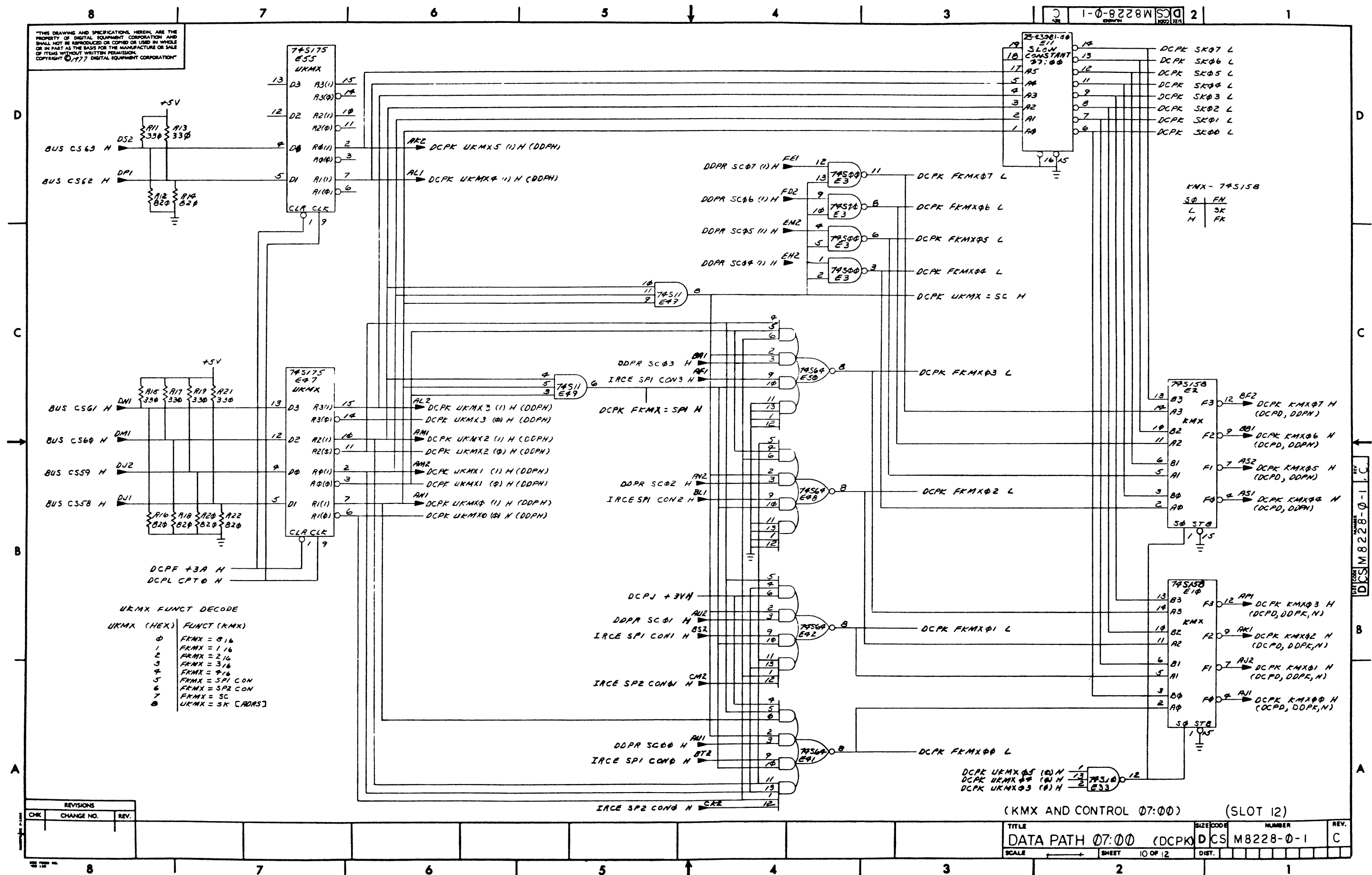
S1	S0	NMX
L	L	#1
L	H	#2
H	L	#4
H	H	DELTA PC

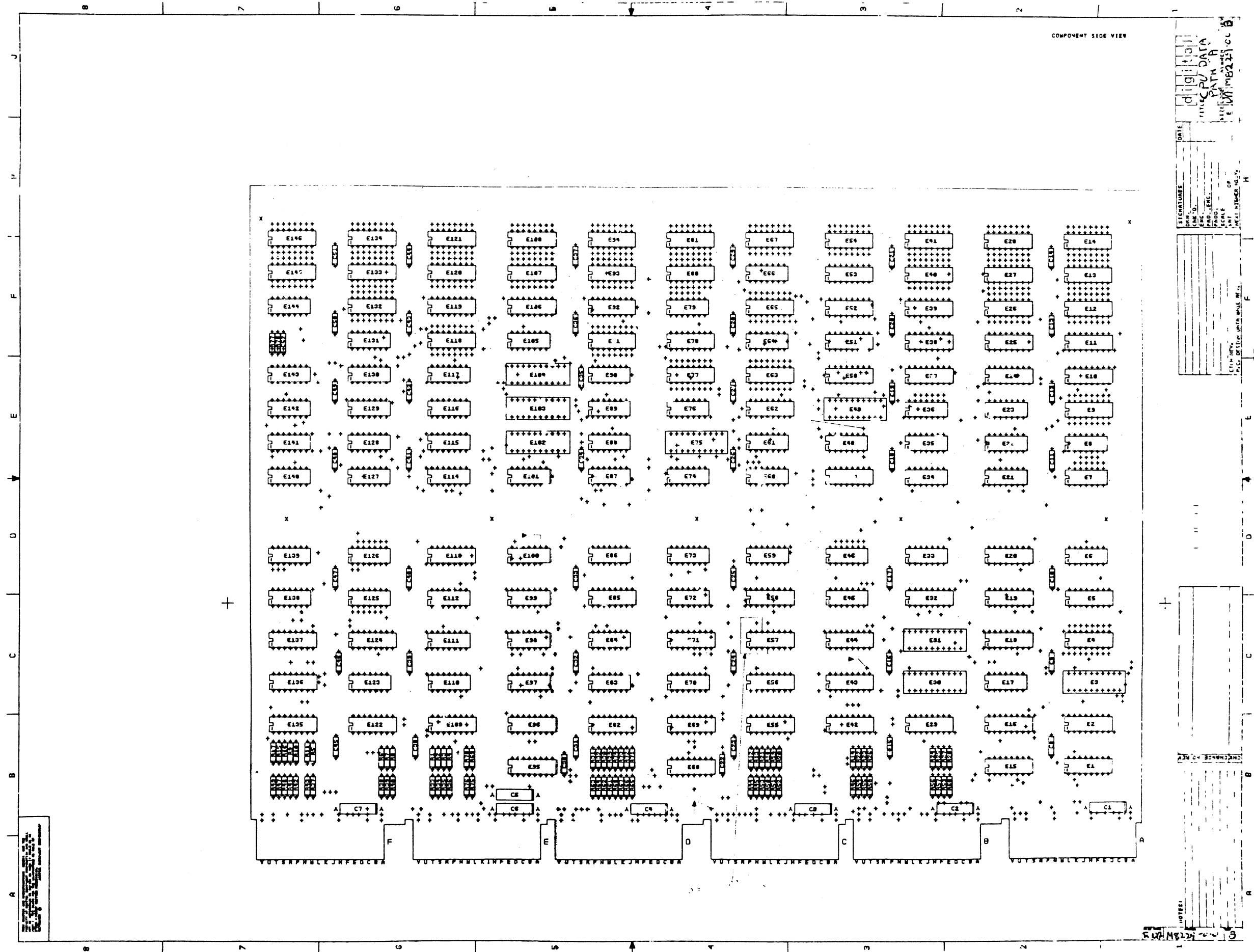
UPCK	FUNCTION
L L L	NO OP
L L H	PC ← VA
L H L	PC ← VIBA
L H H	VA ← VA + 4
H L L	PC ← PC + 1
H L H	PC ← PC + 2
H H L	PC ← PC + 4
H H H	PC ← PC + N

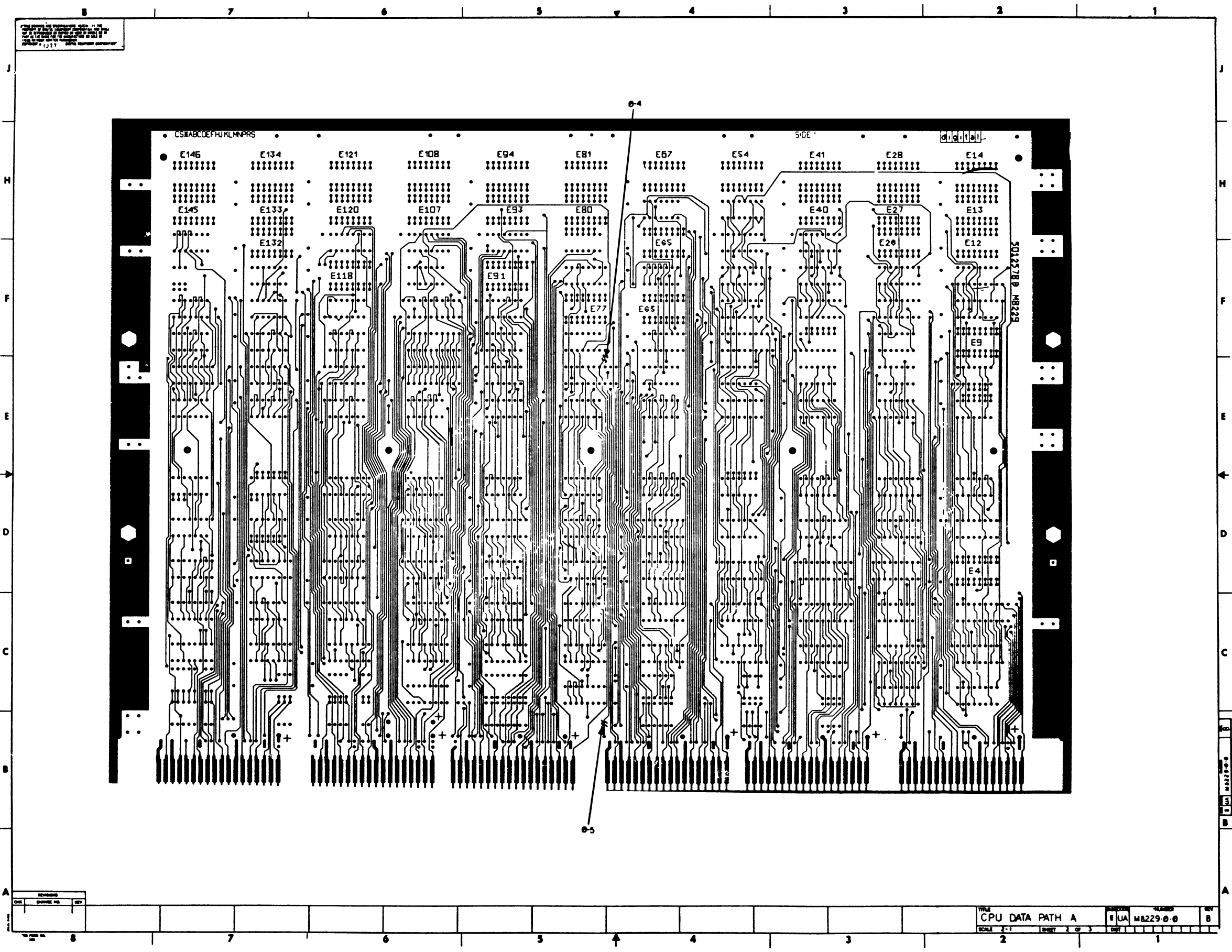
PC ADDER - 74S181
SN = A. PLUS. B.

(VA, VIBA, NMUX, PCAMX 03:00) (SLOT 12)

TITLE	SIZE CODE	NUMBER	REV.
DATA PATH 07:00 (DCPH)	DCS	M8228-0-1	C
SCALE	SHEET	DIST.	
	8 OF 12		



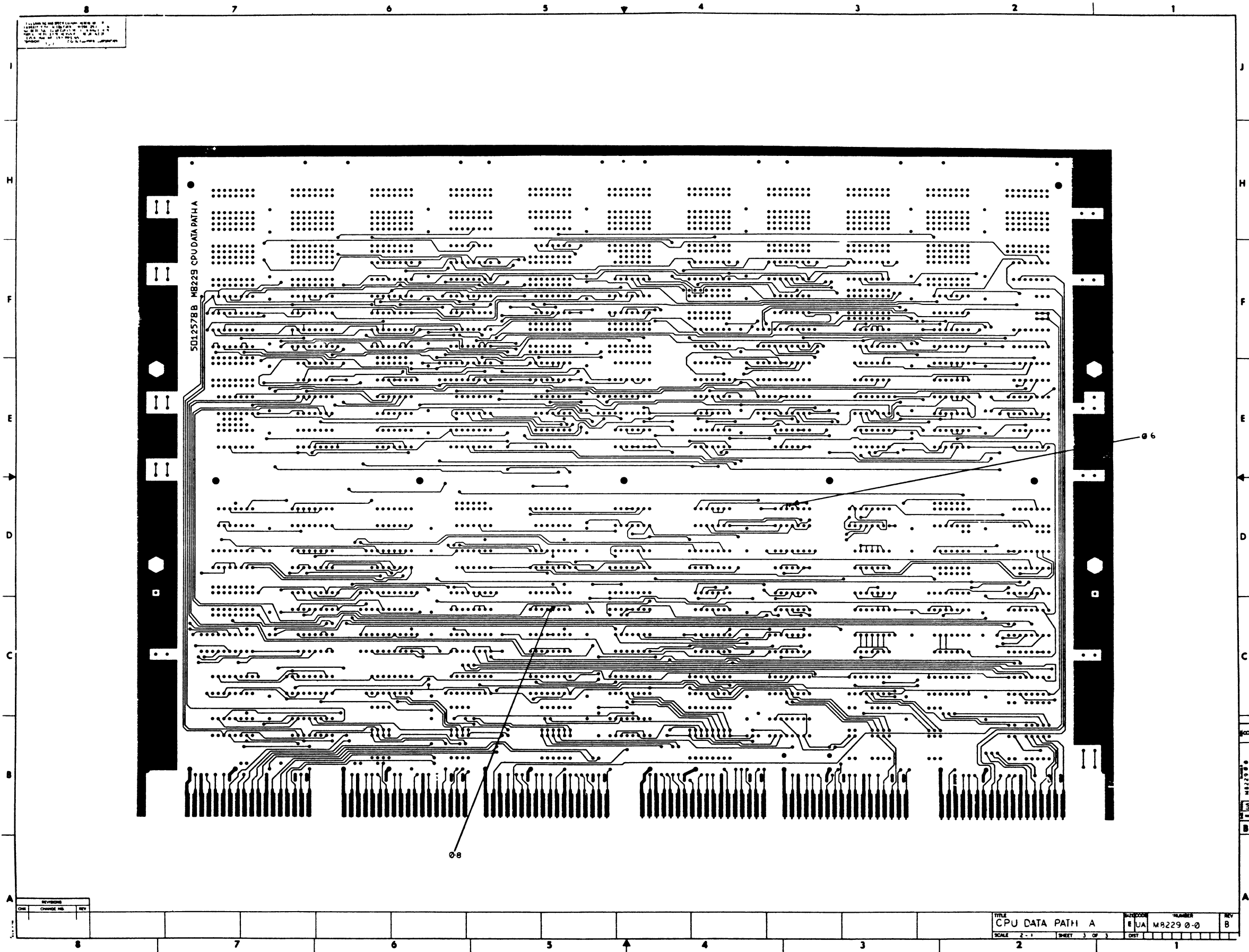




FOR PARTS OF THIS BOARD, SEE THE
CPU DATA PATH A BOARD, WHICH IS
A 100% COPY OF THIS BOARD. THE
CPU DATA PATH A BOARD IS THE
ONLY BOARD THAT IS USED IN THE
CPU DATA PATH A BOARD.

REV	CHG	DATE
1		

TITLE		CPU DATA PATH A		REV		8	
SCALE		1:1		SHEET		2 OF 3	
DATE		1977		BY		JUA	



DIGITAL EQUIPMENT CORPORATION PARTS LIST

QUANTITY / VARIATION

NOTES:

MADE BY
DATE

TRIAD
6 NOV 76

CHECKED DATE	
-----------------	--

F. SMART
12 MAY 77

SECTION

ENG	DATE
-----	------

E Antro
6-9-77

PROD
DATE

Mike Terella
6-1-77

ISSUED SECTION

ITEM NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90	

DRAWING NO.

PART NO.

DESCRIPTION

M8229-Ø-Ø

REF DESIGNATION

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

E-MD-5012578-Ø-Ø

5012578

ETCHED CIRCUIT BOARD

1
7
45
1
6
6
33
32
1
5
6
10
3
4
6

C1-C7
C8-C52
R78
R71-R76
R65-R70
R1-R32,R77
R33-R64
E136
E39,E52,E92,E119,E106
E7,E36,E87,E139,E141,E131
E6,E23,E45,E59,E60,E66,E88,E140,E130,E48
E35,E70,E142
E8,E72,E89,E126
E21,E33,E34,E125,E143,E105

E.C.O. NO.	0000
------------	------

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

TITLE

CPU DATA PATH A

ASSY NO.

E-UA-M8229-Ø-Ø

SHEET 1 OF 3

	SIZE
--	-------------

B

E	CODE
---	------

PL

NUMBER

M8229-Ø-Ø

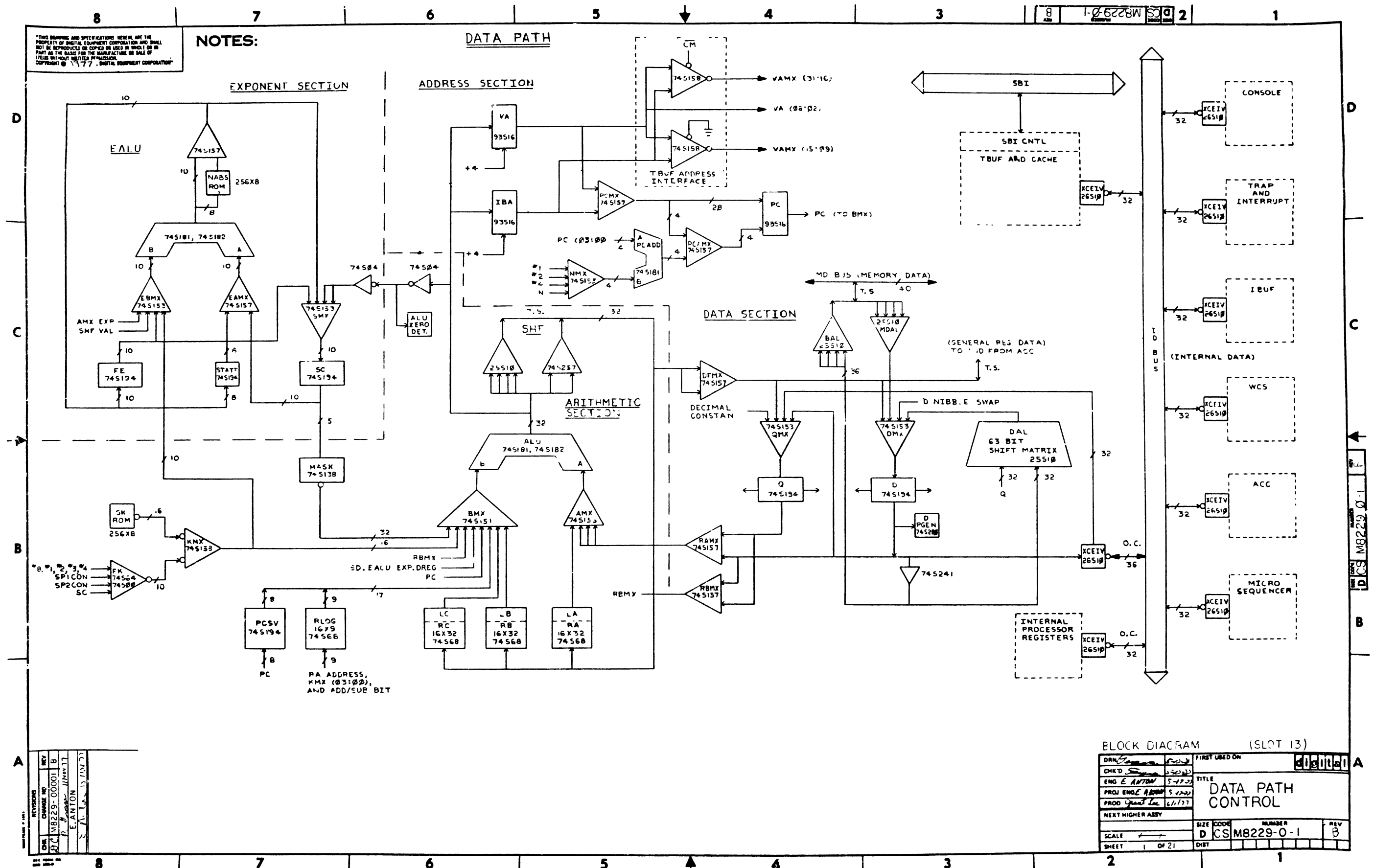
REV.

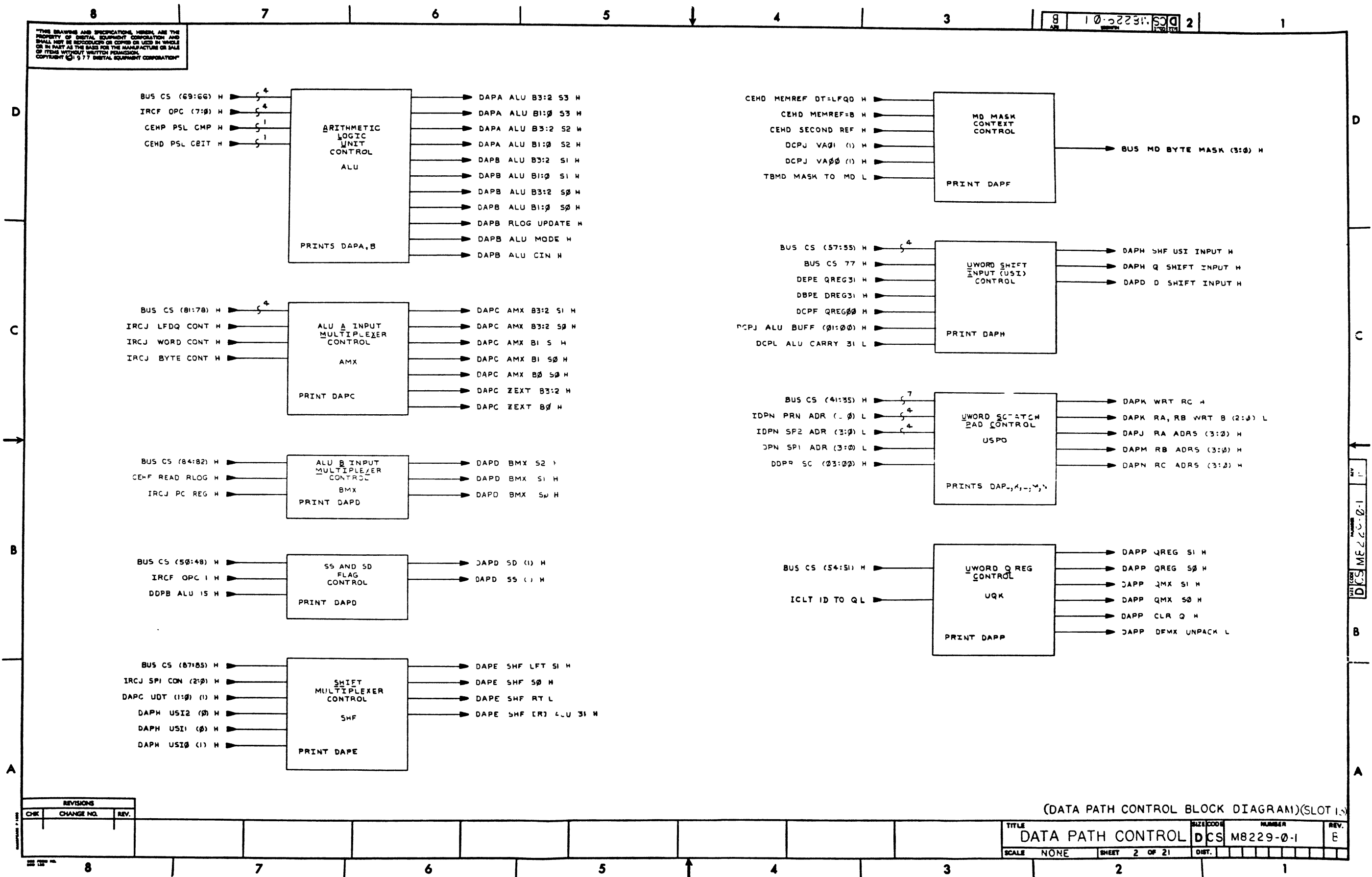
B

INSERTION PARTS LIST DATA BASE REV

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:							
MADE BY DATE		TRIAD 6 NOV 76		CHECKED DATE		F. SMART 12 MAY 77		SECTION															
ENG DATE		E Anton 6-9-77		PROD DATE		Mike Tuller 6-1-77		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8229-0-0													REF DESIGNATION						
16		19-10541	I.C. DEC 74S40	2													E17,E101						
17		19-10542	I.C. DEC 74S64	15													E83,E84,E86,E97,E98,E99,E100,E110,E111, E112,E127,E123,E128,E129,E117						
18		19-10544	I.C. DEC 74S74	3													E61,E64,E144						
19		19-10548	I.C. DEC 74S157	1													E137						
20		19-10549	I.C. DEC 74S158	4													E1,E2,E18,E62						
21		19-10552	I.C. DEC 74S194	1													E113						
22		19-10956	I.C. DEC 74S151	13													E10,E11,E24,E25,E37,E38,E43,E44,E50,E51, E56,E57,E58.						
23		19-10957	I.C. DEC 74S175	12													E15,E16,E29,E47,E55,E69,E82,E96,E109, E122,E135,E42						
24		19-11469	I.C. DEC 8640	1													E79						
25		19-11675	I.C. DEC 74S138	4													E5,E71,E85,E124						
26		19-11415	I.C. DEC 10125	2													E68,E95						
27		19-11712	I.C. DEC 74S51	6													E46,E74,E114,E115,E116,E76						
28		19-11983	I.C. DEC 74S133	3													E19,E20,E32						
E.C.O. NO.																							
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE CPU DATA PATH A				ASSY NO. E-UA-M8229-0-0				SIZE B	CODE PL	NUMBER M8229-0-0		REV. B							
								SHEET 2 OF 3				INSERTION PARTS LIST DATA BASE REV											

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:							
MADE BY DATE		TRIAD 6 NOV 76		CHECKED DATE		F. SMART 12 MAY 77		SECTION															
ENG DATE		E. Anton 6-9-77		PROD DATE		Mike Terillo 6-1-77		ISSUED SECTION														REF DESIGNATION	
ITEM NO.		DRAWING NO.		PART NO.		DESCRIPTION																	
29				19-12096		I.C. DEC 74S86		1												E90			
30				19-12389		I.C. DEC 74S08		3												E22, E73, E138			
31				19-12865		I.C. DEC 74LS283		2												E78, E53			
32				19-13462		I.C. DEC 74S240		4												E3, E31, E75, E104			
33				19-13493		I.C. DEC 74S241		1												E49			
34				19-13670		I.C. DEC 74S373		1												E30			
35				23-027B1-00		I.C. DEC ROM 11 MODE		1												E102			
36				23-026B1-00		I.C. DEC ROM VAX		1												E103			
37				12-10711-2		MODULE HANDLE		1															
38				9000024-01		MODULE HANDLE EYELETS		12															
						SPARES		30												E12-E14, E9, E4, E26-E28, E40, E41, E54, E63, E65, E67, E80, E81, E77, E91, E93, E94, E108, E107, E118, E120, E121, E132-E134, E146, E145			
E.C.O. NO.																							
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT ©1977 DIGITAL EQUIPMENT CORPORATION"						TITLE CPU DATA PATH A				ASSY NO. E-UA-M8229-Ø-Ø				SIZE B		CODE PL		NUMBER M8229-Ø-Ø		REV. B			
						SHEET 3 OF 3				INSERTION PARTS LIST DATA BASE REV													





THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

AMX CONTROL — TRUTH TABLE

UAMX.		UDT		CONTEXT			AMX CONTROL												AMX OUTPUT FUNCTIONS				
							BYTE 3			BYTE 2			BYTE 1			BYTE 0			BYTE 3	BYTE 2	BYTE 1	BYTE 0	
I	0	I	0	LONG	WORD	BYTE	S:	S0	STB	S:	S0	STB	S:	S0	STB	S:	S0	STB					
L	L	X	X	X	X	X	L	L	L	L	L	L	L	L	L	L	L	L	LA (31:00)				
L	H	X	X	X	X	X	L	H	L	L	H	L	L	H	L	L	H	L	RAMX (31:00)				
H	L	L	L	X	X	X	L	H	L	L	H	L	L	H	L	L	H	L	[CSXT LONG]	RAMX (31:00)			
H	L	L	H	X	X	X	H	H	L	L	H	H	L	L	H	L	H	L	[CSXT WORD]	← RAMX 15	RAMX (15:00)		
H	L	H	L	X	X	X	H	L	L	H	L	L	H	H	L	L	H	L	[CSXT BYTE]	←	RAMX 7	RAMX (07:00)	
H	L	H	H	H	L	L	L	H	L	L	H	L	L	H	L	L	H	L	RAMX (31:00)				
H	L	H	H	L	H	L	L	H	H	L	H	L	L	H	L	L	H	L	[CSXT WORD]	← RAMX 15	RAMX (15:00)		
H	L	H	H	L	L	L	L	H	L	L	H	L	L	H	H	L	L	H	[CSXT BYTE]	←	RAMX 7	RAMX (07:00)	
H	H	L	L	X	X	X	X	X	H	X	X	H	H	L	L	X	X	H	[0XT LONG] L	L			
H	H	L	H	X	X	X	X	X	H	X	X	H	L	H	L	L	H	L	[0XT WORD] L	←	L	RAMX (15:00)	
H	H	H	L	X	X	X	X	X	H	X	X	H	H	L	L	L	H	L	[0XT BYTE] L	←	L	RAMX (07:00)	
H	H	H	H	H	L	L	X	X	H	X	X	H	H	L	L	X	X	H	[0XT LONG] L	L			
H	H	H	H	L	H	L	X	X	H	X	X	H	L	H	L	L	H	L	[0XT WORD] L	←	L	RAMX (15:00)	
H	H	H	H	L	L	H	X	X	H	X	X	H	H	L	L	L	H	L	[0XT BYTE] L	←	L	RAMX (07:00)	

NOTE: X=DON'T CARE
SXT=SIGN EXTEND
0XT=ZERO EXTEND

ALU FUNCTION SELECT — TRUTH TABLE

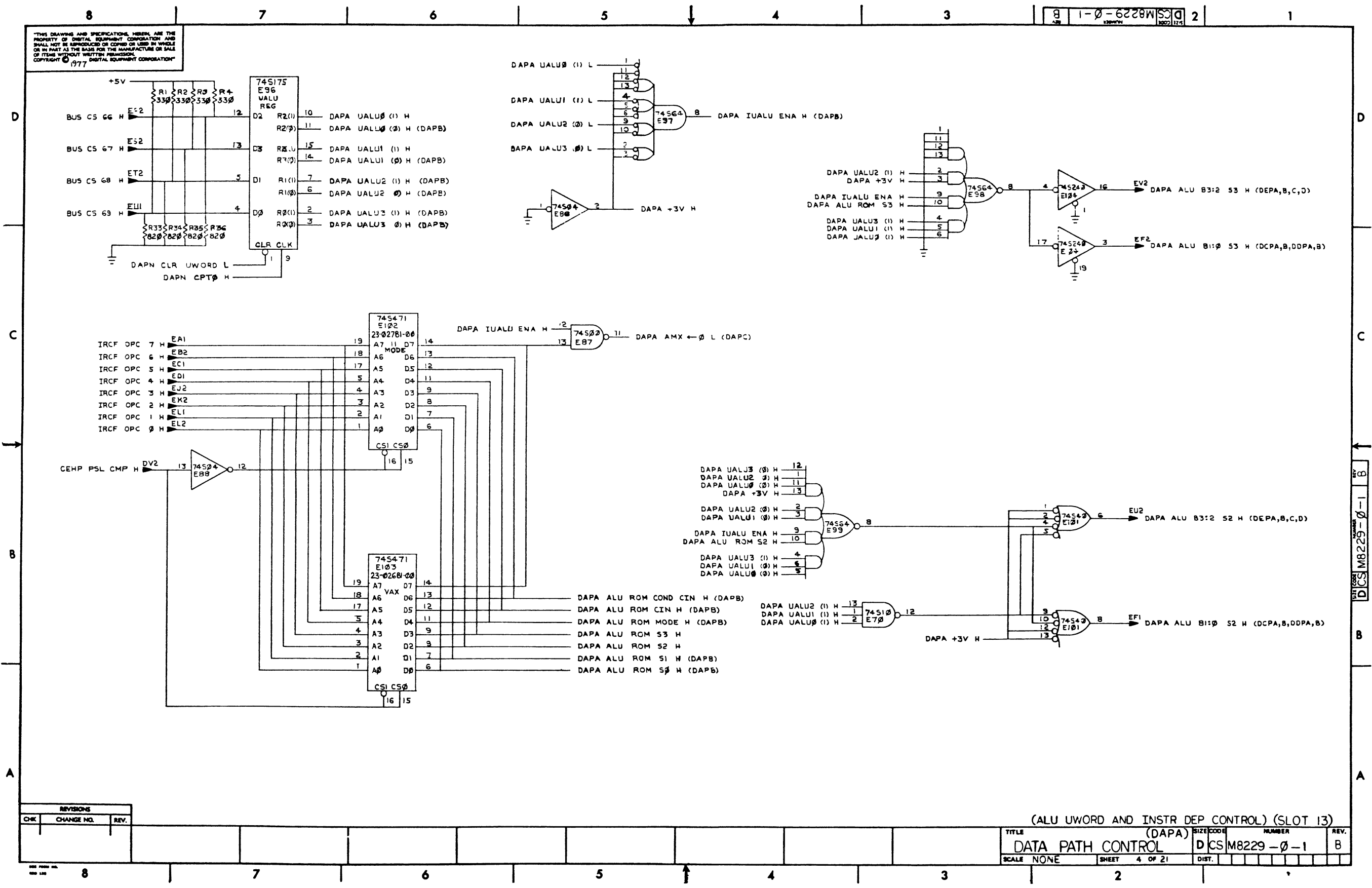
UALU (03:00)						FUNCTION SELECT LINES				MODE CONTROL	CARRY INPUT	ALU FUNCTION
HEX	3	2	1	0		S3	S2	S1	S0	H=LOGIC L=ARITH	CARRY=L	
0	L	L	L	L		L	H	H	L	L	L	A. MINUS B
1	L	L	L	H		L	H	H	L	L	L	A. MINUS. B [R LOG]
2	L	L	H	L		L	H	H	L	L	H	A. MINUS. B. MINUS. I
3	L	L	H	H		#	#	#	#	#	#	INSTRUCTION DEP.
4	L	H	L	L		H	L	L	H	L	L	A. PLUS. B PLUS. I
5	L	H	L	H		H	L	L	H	L	H	A. PLUS. B
6	L	H	H	L		H	L	L	H	L	H	A. PLUS. B [R LOG]
7	L	H	H	H		H	H	H	L	H	X	A. OR. NOT. B
8	H	L	L	L		L	H	H	L	H	X	A. XOR. B
9	H	L	L	H		L	H	H	H	H	X	A. AND. NOT. B
A	H	L	H	L		L	L	L	L	H	X	. NOT. A
B	H	L	H	H		L	L	L	H	L	PSL. C	A. PLUS. B. PLUS. C
C	H	H	L	L		H	H	H	L	H	X	A. OR. B
D	H	H	L	H		H	L	H	H	H	X	A. AND. B
E	H	H	H	L		H	L	H	L	H	X	B
F	H	H	H	H		H	H	H	H	H	X	A

NOTE: X=DON'T CARE
#=INSTRUCTION DEPENDENT

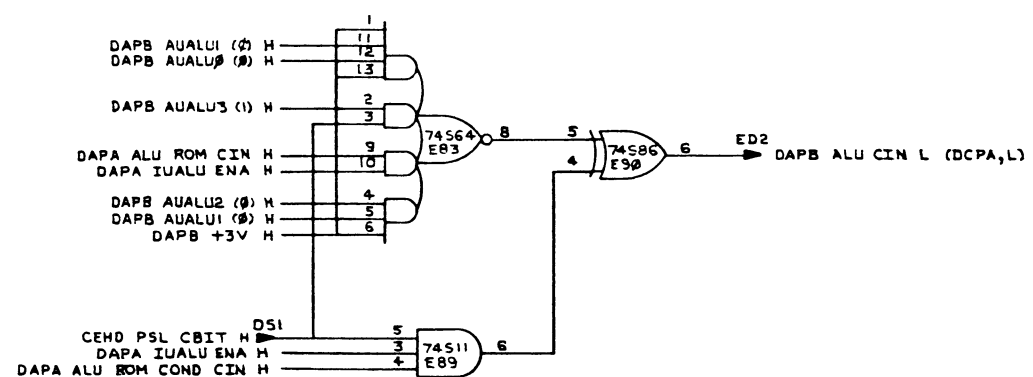
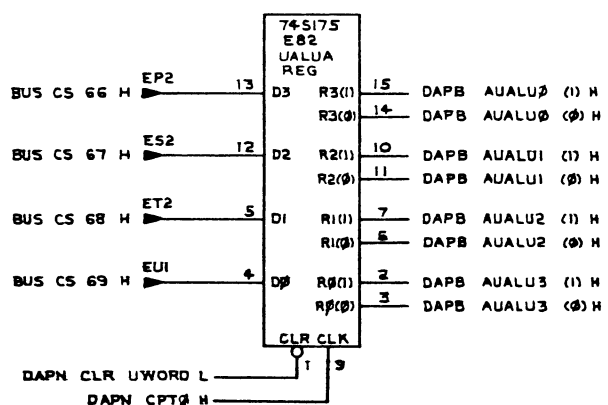
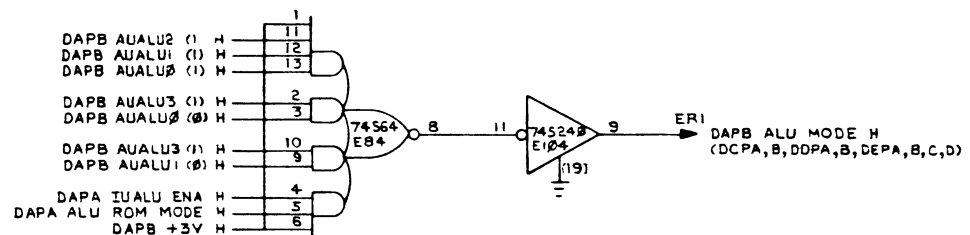
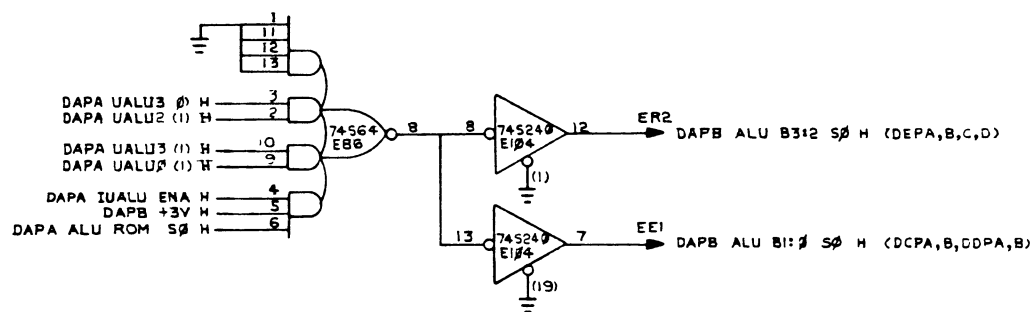
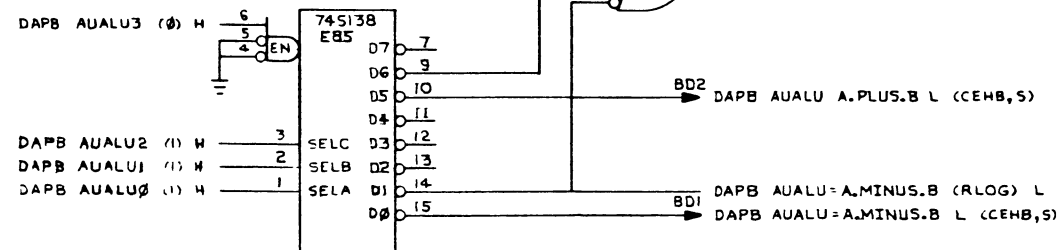
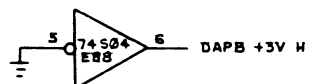
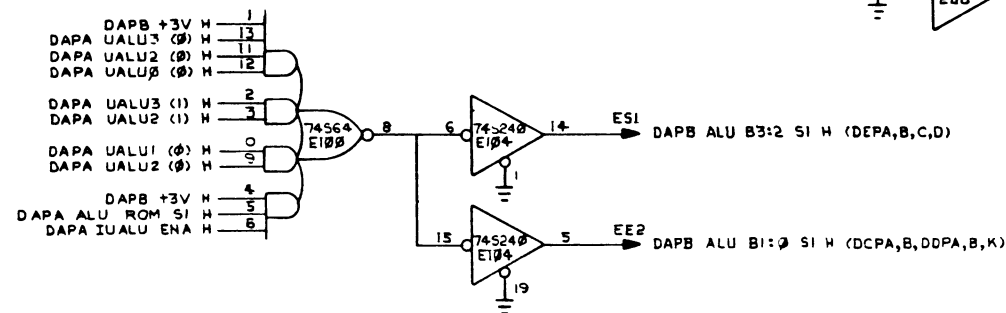
(ALU AND AMX CONTROL TRUTH TABLES) (SLOT 13)

TITLE		SIZE CODE	NUMBER	REV.
DATA PATH CONTROL		D CS	M8229 - 0 - 1	B
SCALE NONE		SHEET 3 OF 21	DWT.	

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



DIGITAL EQUIPMENT CORPORATION
M8229-0-1

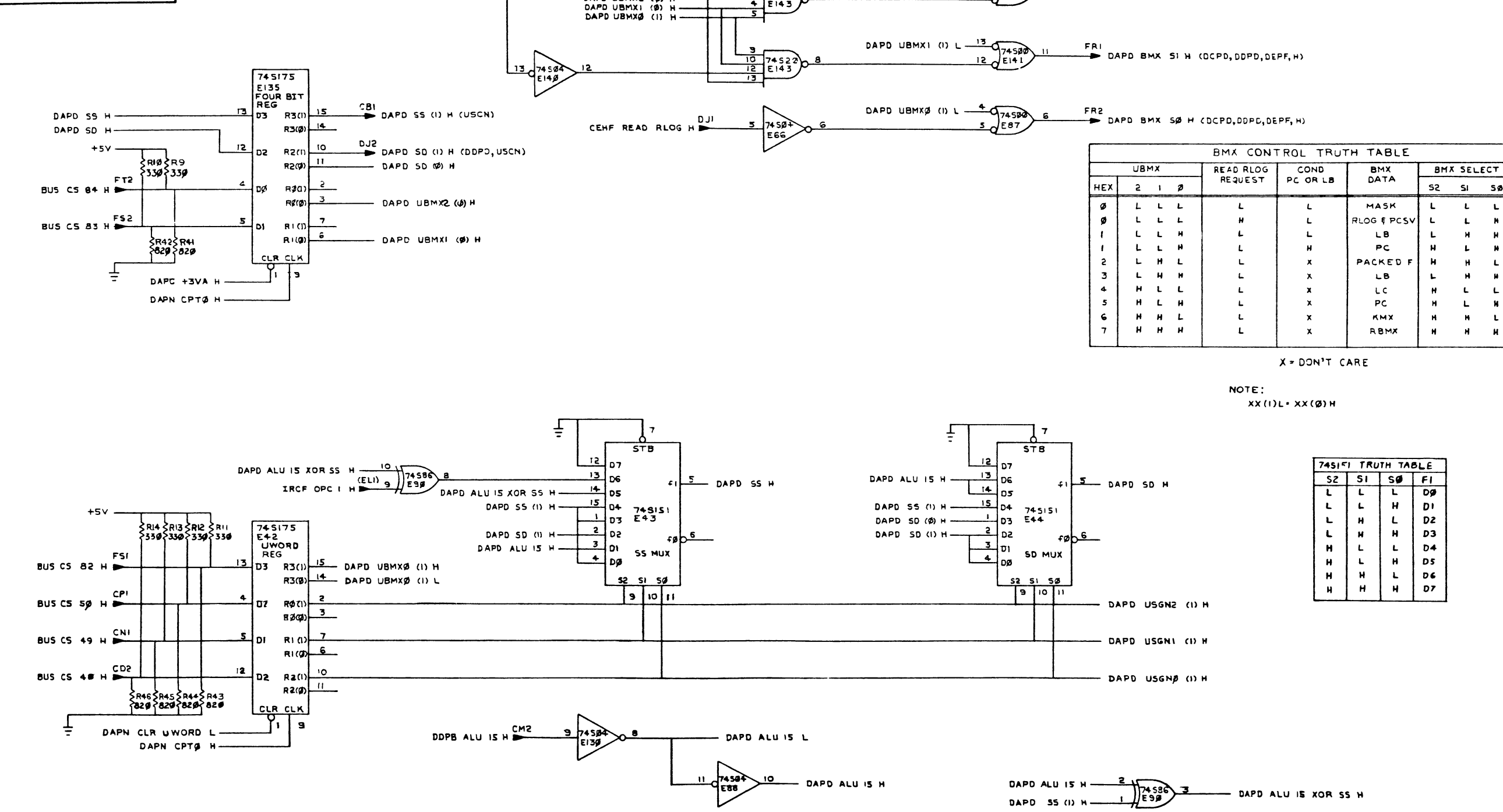
B

A

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SCALE		SHEET		REV.	
(ALU CONTROL) (DAPB)		NONE		5 OF 21		B	
DATA PATH CONTROL		DIST.		M8229-0-1			

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



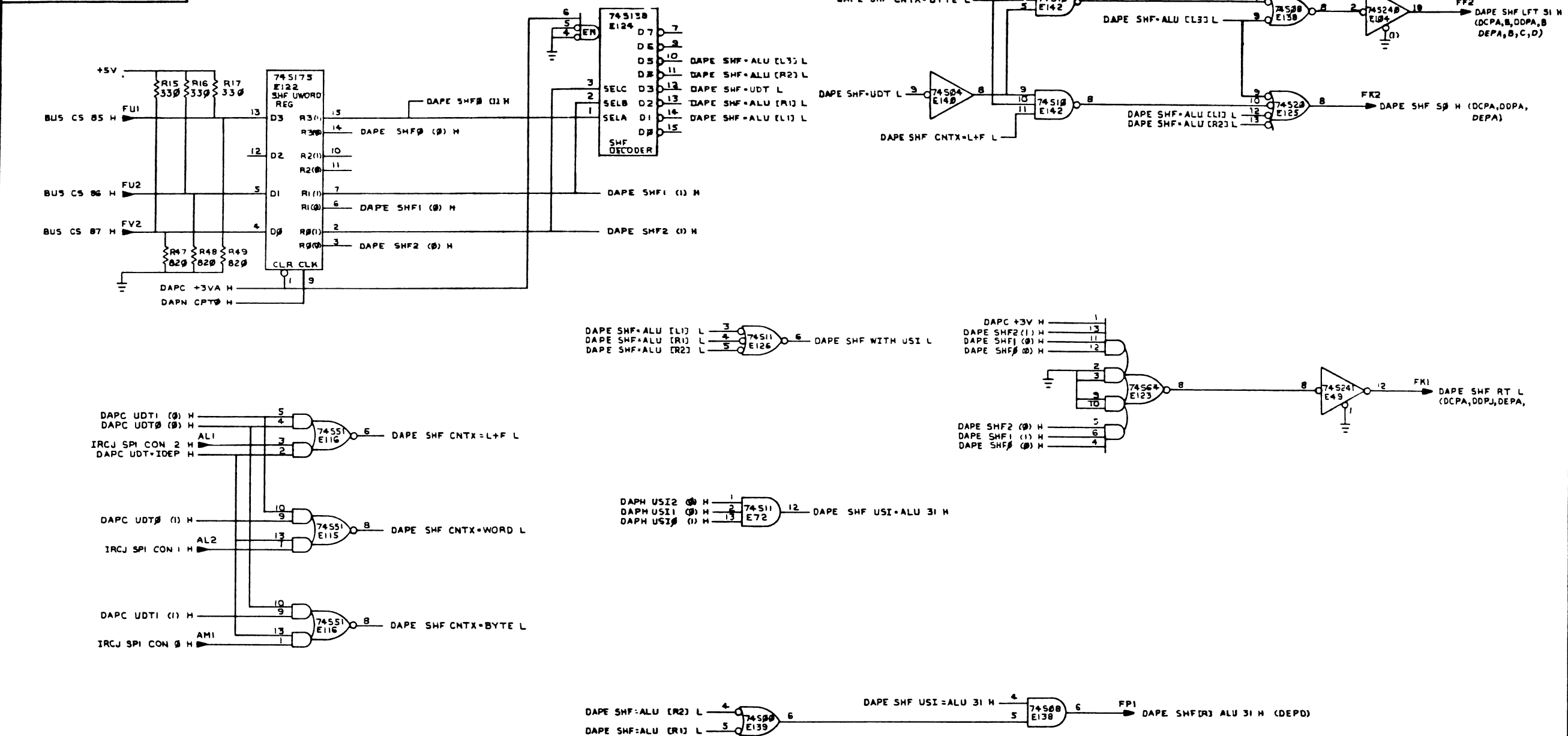
BMX CONTROL TRUTH TABLE									
UBMX				READ RLOG REQUEST	COND PC OR LB	BMX DATA	BMX SELECT		
HEX	2	1	0				S2	S1	S0
0	L	L	L	L	L	MASK	L	L	L
1	L	L	L	H	L	RLOG & PCSV	L	L	H
1	L	L	H	L	H	LB	H	L	H
2	L	H	L	L	X	PACKED F	H	H	L
3	L	H	H	L	X	LB	L	H	H
4	H	L	L	L	X	LC	H	L	L
5	H	L	H	L	X	PC	H	L	H
6	H	H	L	L	X	KMX	H	H	L
7	H	H	H	L	X	RBMX	H	H	H

X = DON'T CARE
NOTE:
XX(1) L = XX(0) H

745151 TRUTH TABLE			
S2	S1	S0	F1
L	L	L	D0
L	L	H	D1
L	H	L	D2
L	H	H	D3
H	L	L	D4
H	L	H	D5
H	H	L	D6
H	H	H	D7

REVISIONS		
CHK	CHANGE NO.	REV.

THE DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



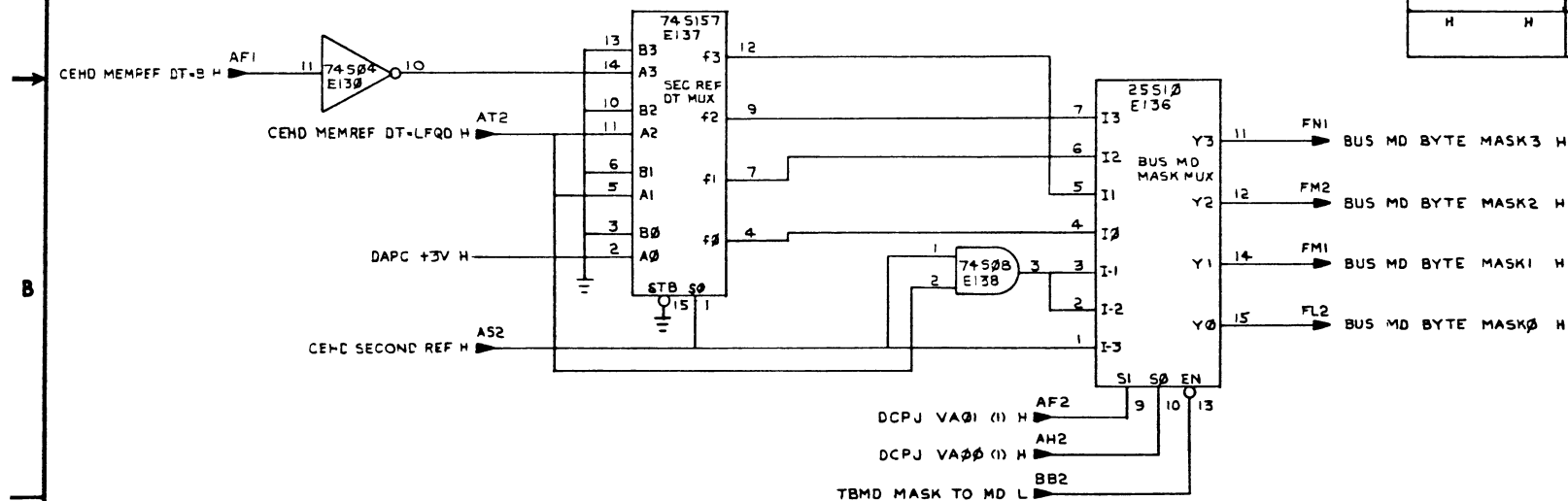
REVISIONS													(SHF MUX CONTROL)		(SLOT 13)							
CHK	CHANGE NO.	REV.											TITLE	SIZE	CODE	NUMBER	REV.					
													DATA PATH CONTROL (DAPE)	D	CS	M8229-0-1	B					
													SCALE	NONE	SHEET	8 OF 21	DIST.					

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

74S157 TRUTH TABLE		
STB	S0	FN
H	-	FN=0
L	L	FN=AN
L	H	FN=BN

25S10 TRUTH TABLE						
EN	S1	S0	Y3	Y2	Y1	Y0
H	-	-	0	0	0	0
L	L	L	I ₃	I ₂	I ₁	I ₀
L	L	H	I ₂	I ₁	I ₀	I ₃
L	H	L	I ₁	I ₀	I ₃	I ₂
L	H	H	I ₀	I ₃	I ₂	I ₁

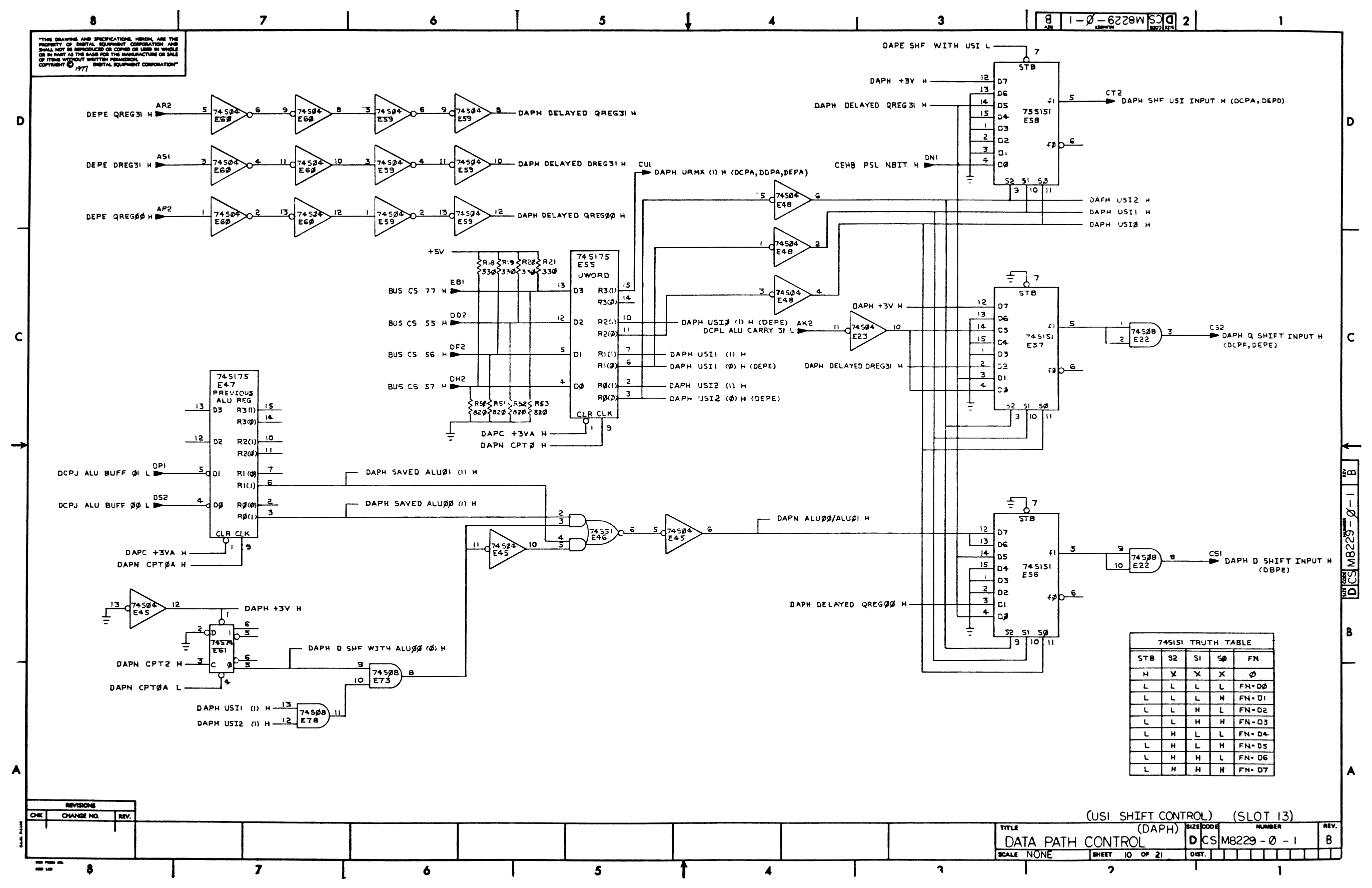
BUS MD BYTE MASK TRUTH TABLE									
BYTE ADRS.		DATA TYPE			SEC. REF. REQUIRED	BUS MD BYTE MASK			
VA01	VA00	BYTE(B)	LONG(LQDF)	WORD (.NOT.B*,.NOT..2DF)		3	2	1	0
L	L	H	L	L	L	L	L	L	H
L	H	H	L	L	L	L	L	L	H
H	L	H	L	L	L	L	H	L	L
H	H	H	L	L	L	H	L	L	L
L	L	L	L	H	L	L	L	H	H
L	H	L	L	H	L	L	H	H	L
H	L	L	L	H	L	H	H	L	L
H	H	L	L	H	L	H	L	L	L
L	L	L	H	L	L	H	H	H	H
L	H	L	H	L	L	L	H	H	L
H	L	L	H	L	L	H	L	L	H
H	H	L	H	L	L	H	L	L	L
H	H	L	H	L	L	H	L	H	H
H	H	L	H	L	L	H	L	H	H



REVISIONS		
CHK	CHANGE NO.	REV.

(MASK CONTEXT)				(SLOT 13)			
TITLE		(DAPF)		SIZE	CODE	NUMBER	REV.
DATA PATH CONTROL		D	CS	M8229-0-1		B	
SCALE	NONE	SHEET	9 OF 21	DIST			

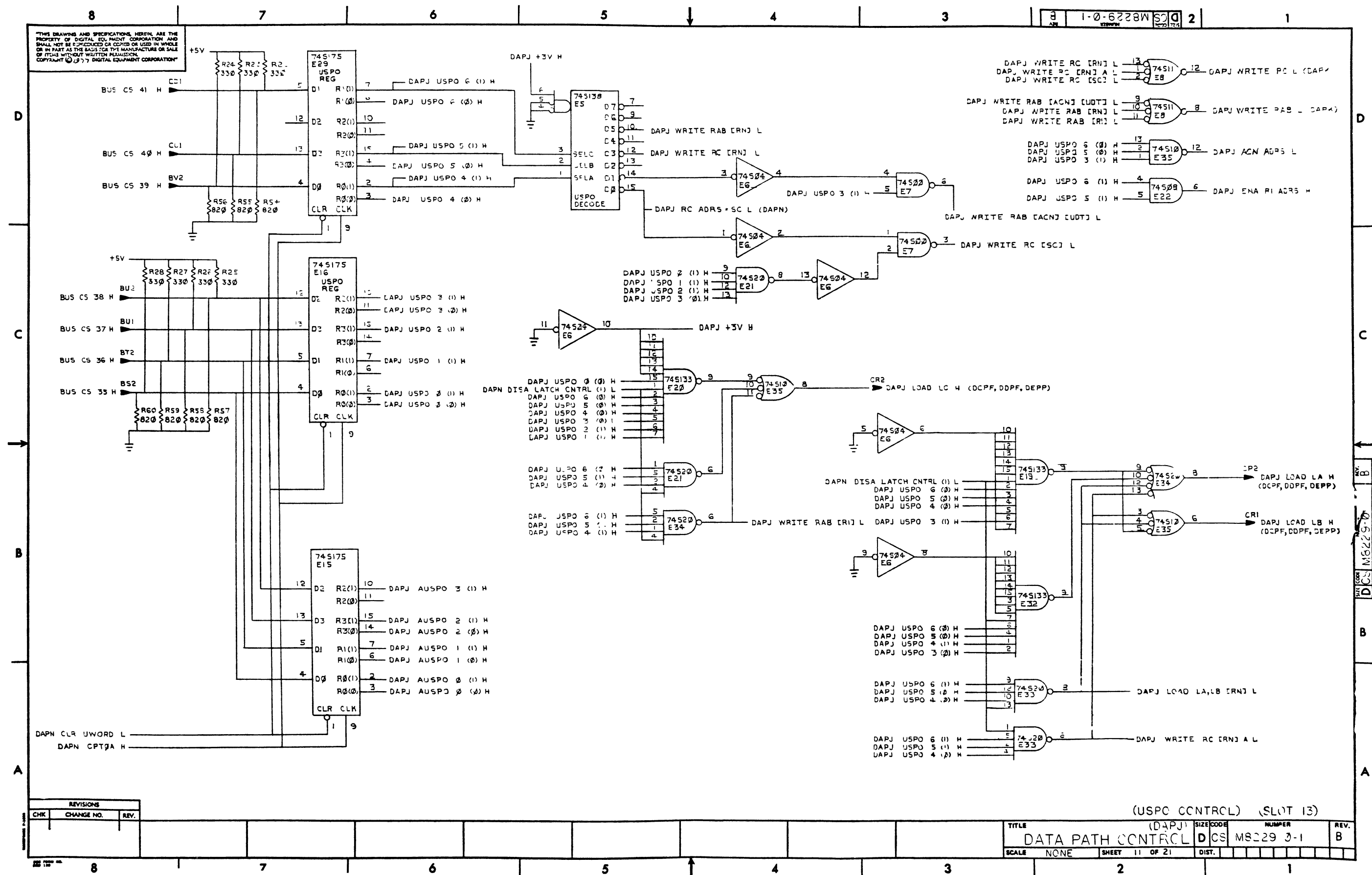
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



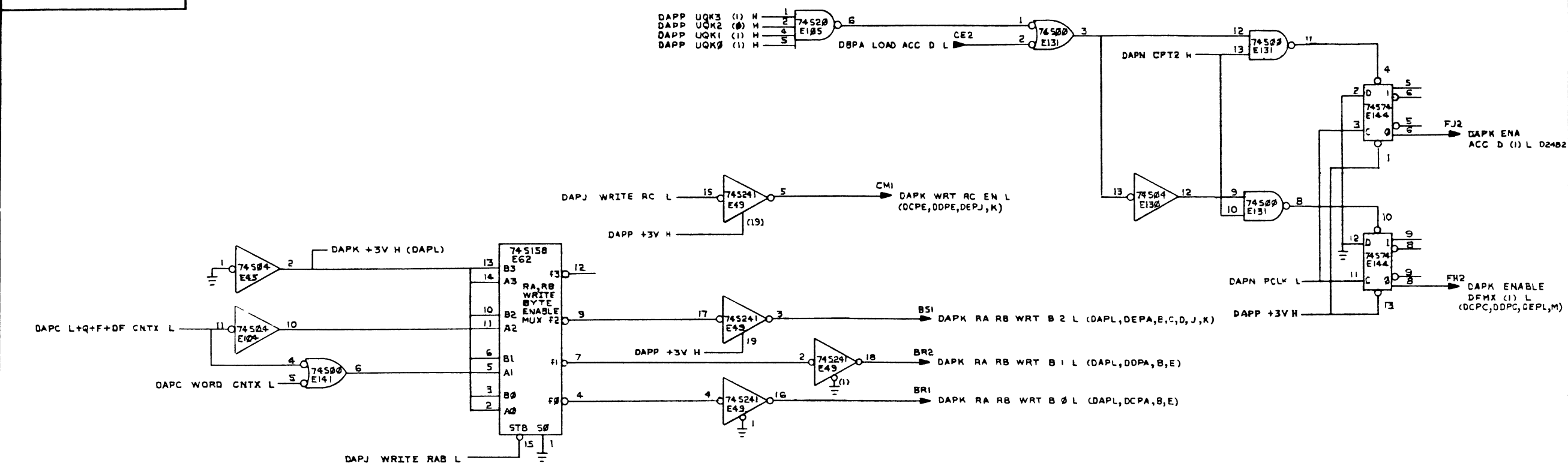
74S151 TRUTH TABLE				
STB	S2	S1	S0	FN
H	X	X	X	0
L	L	L	L	FN=00
L	L	L	H	FN=01
L	L	H	L	FN=02
L	L	H	H	FN=03
L	H	L	L	FN=04
L	H	L	H	FN=05
L	H	H	L	FN=06
L	H	H	H	FN=07

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		(USI SHIFT CONTROL) (SLOT 13)		NUMBER		REV.	
DATA PATH CONTROL (DAPH)		D CS M8229 - 0 - 1		B			
SCALE	NONE	SHEET	10 OF 21	DIST.			

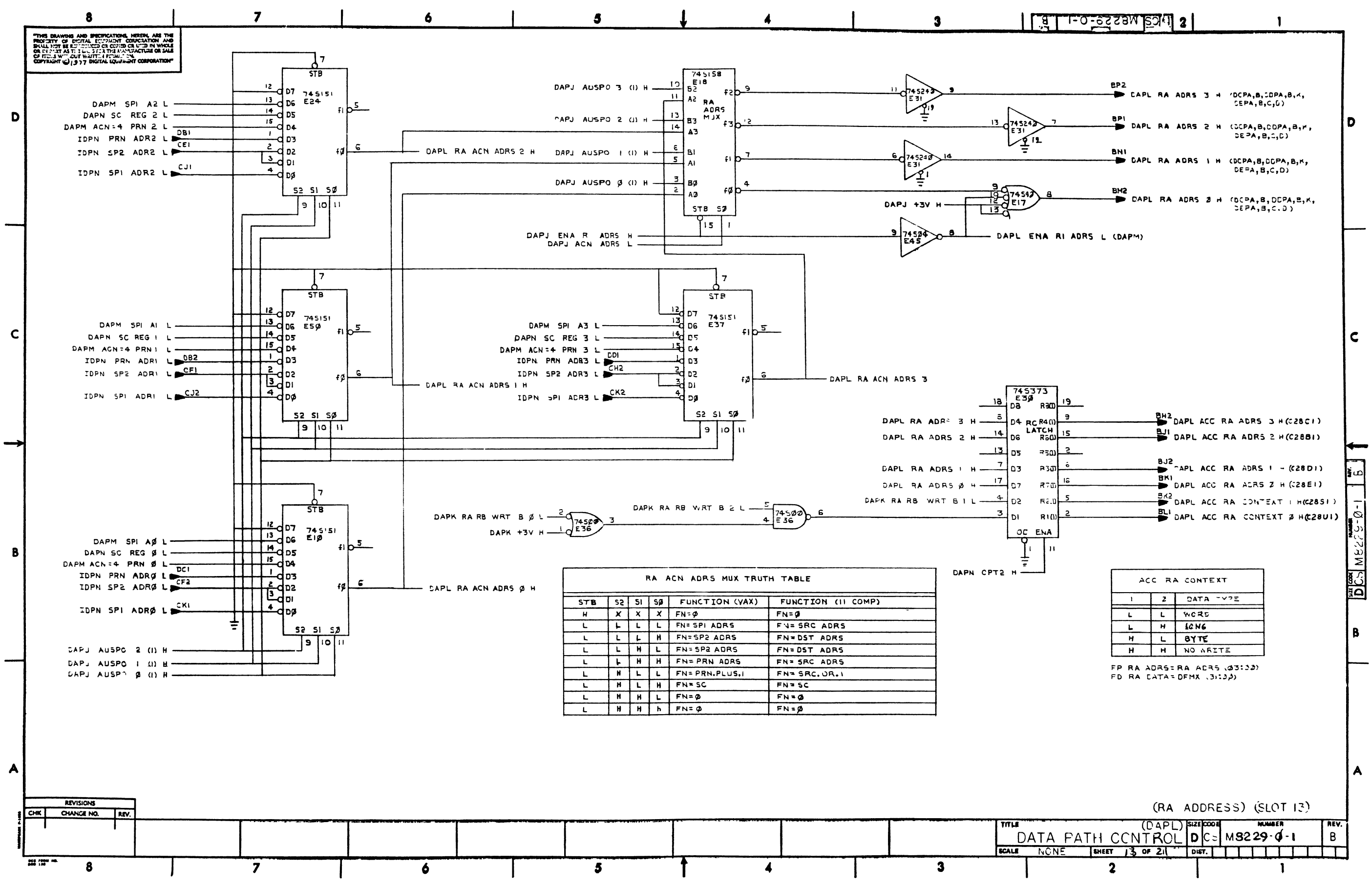


THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



745158 TRUTH TABLE		
STB	S0	FN
H	X	FN=0
L	L	FN=AN
L	H	FN=BN

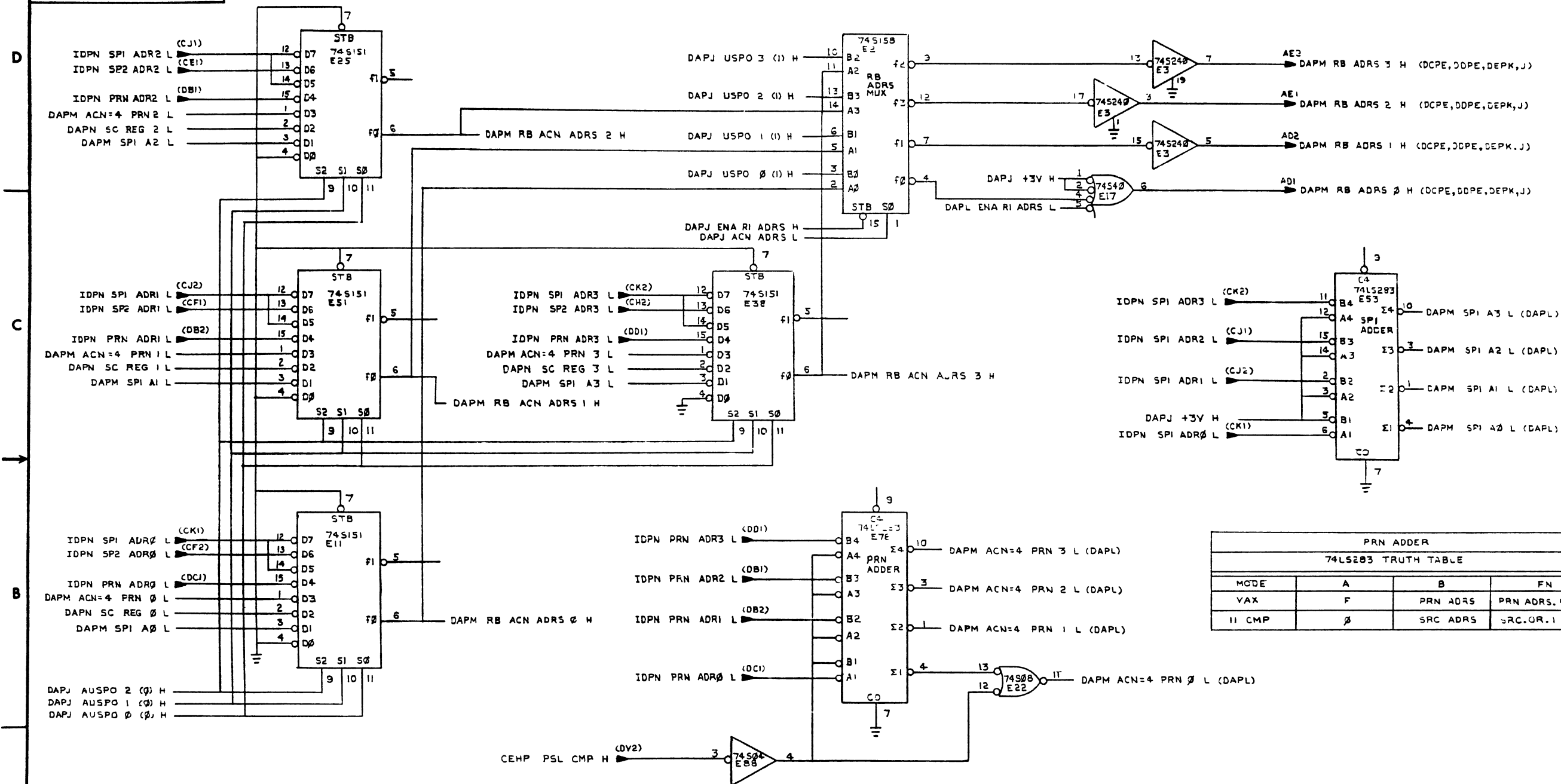
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS TO THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		(DAPL) DATA PATH CONTROL	SIZE CODE	NUMBER	REV.
SCALE		NONE	SHEET	13 OF 21	B
DIST.					

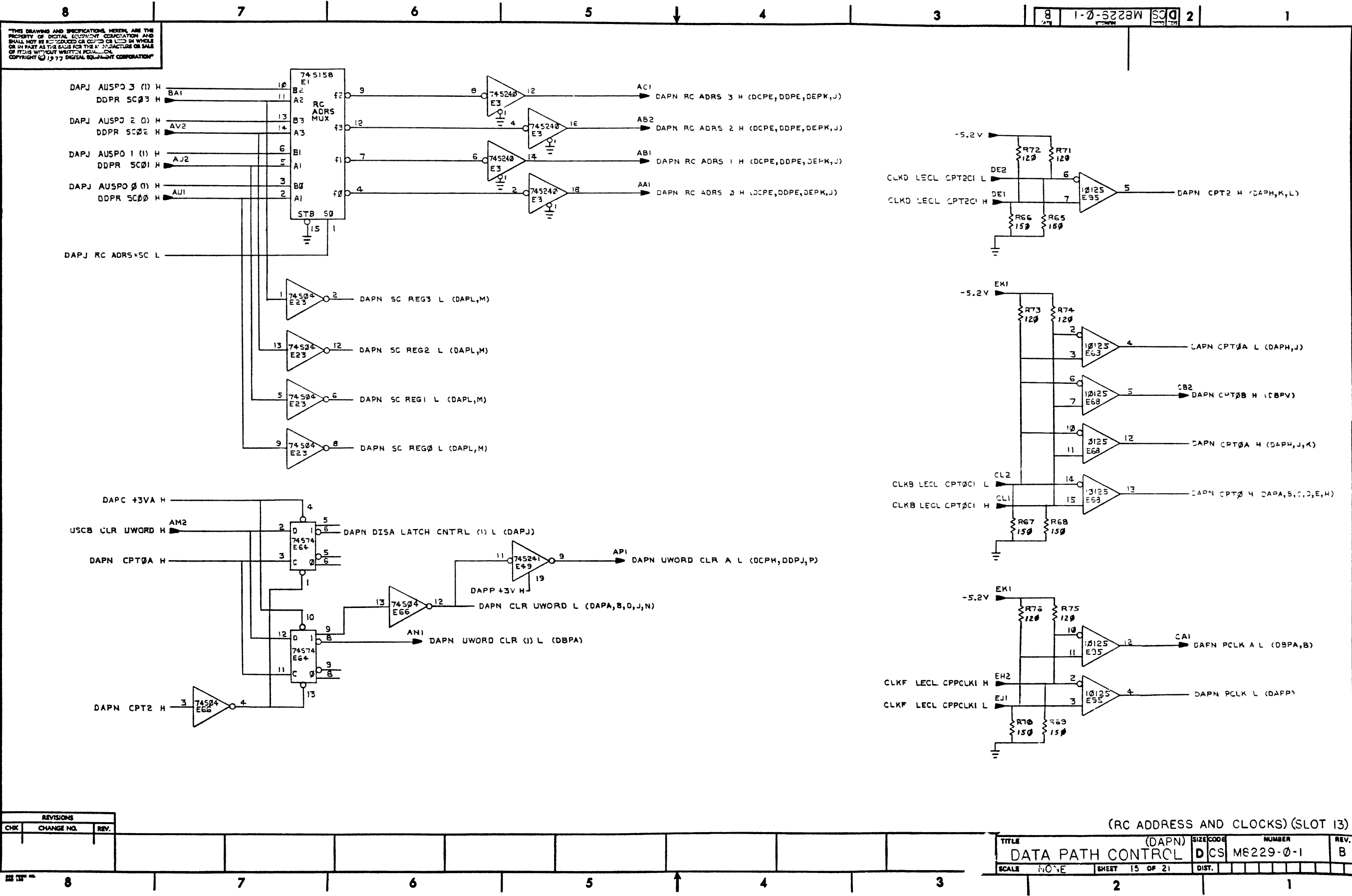
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



PRN ADDER			
74LS283 TRUTH TABLE			
MODE	A	B	FN
VAX	F	PRN ADRES	PRN ADRES.PLUS.1
11 CMP	0	SRC ADRES	SRC.ORG.1

(RB ADDRESS) (SLOT 13)

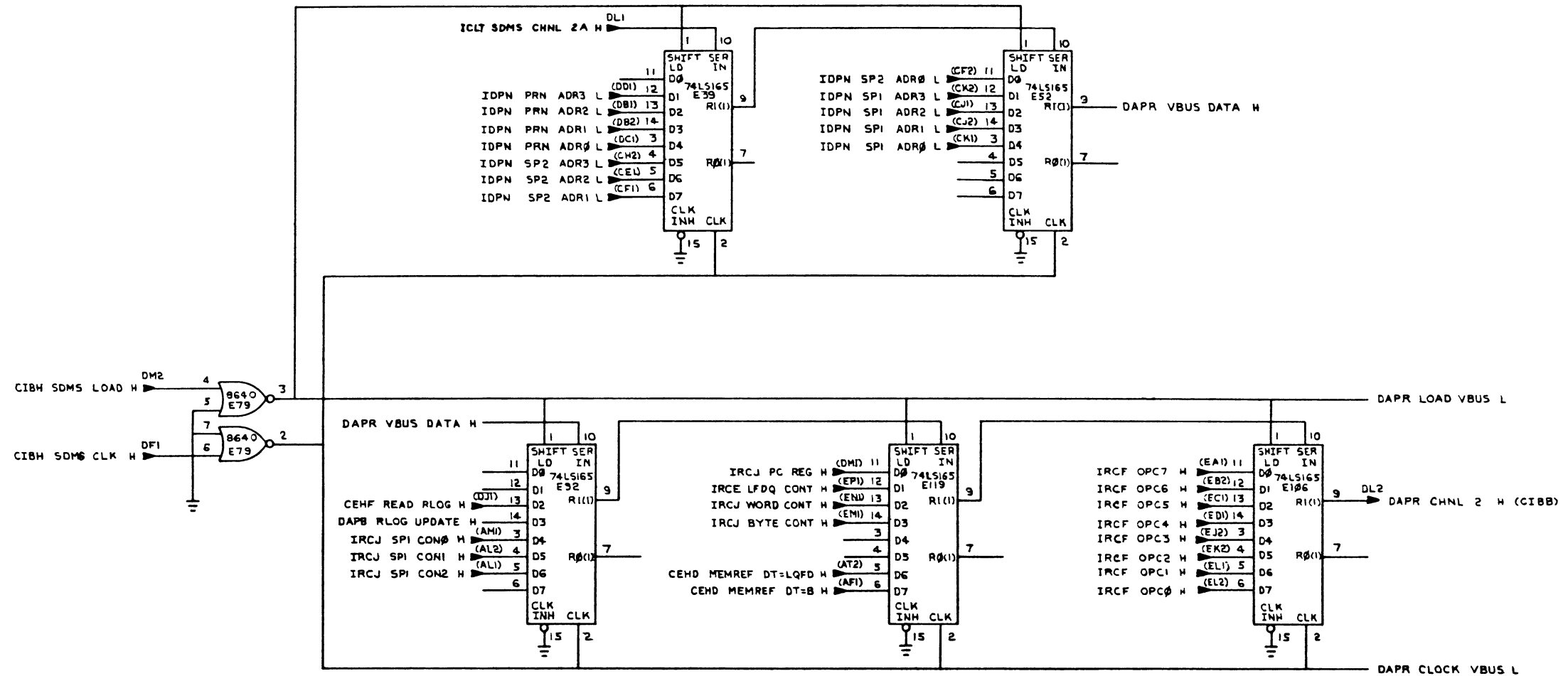
TITLE		SIZE CODE	NUMBER	REV.
DATA PATH CONTROL (DAPM)		D C S	MS229-0-1	B
SCALE	NONE	SHEET	11 OF 21	DIST.



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		(DAPN)	SIZE CODE	NUMBER	REV.
DATA PATH CONTROL		D	CS	M8229-0-1	B
SCALE	NONE	SHEET	15 OF 21	DIST.	

"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE CODE	NUMBER	REV.
(DAPR) DATA PATH CONTROL		DCS	M8229-0-1	B
SCALE	NONE	SHEET	17 OF 21	CHIT.

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

ALU INSTR. DEPENDENT ROM (CM)

ROM ADDR	OP- CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
80	ADD2	L	L	L	L	H	L	L	H	A.PL.B
81	ADD3	L	L	L	L	H	L	L	H	A.PL.B
82	SUB2	L	L	H	L	L	H	L	L	A.MIN.B
83	SUB3	L	L	H	L	L	H	L	L	A.MIN.B
84	MUL2	L	L	L	L	L	L	L	L	X
85	MUL3	L	L	L	L	L	L	L	L	X
86	DIV2	L	L	L	L	L	L	L	L	X
87	DIV3	L	L	L	L	L	L	L	L	X
88	BIS2	L	L	L	H	H	H	H	L	A+B
89	BIS3	L	L	L	H	H	H	H	L	A+B
8A	BIC2	L	L	L	H	L	H	H	H	A*B
8B	BIC3	L	L	L	H	L	H	H	H	A*B
8C	XOR2	L	L	L	H	L	H	H	L	A⊕B
8D	XOR3	L	L	L	H	L	H	H	L	A⊕B
8E	MNEGB	H	L	H	L	L	H	H	L	⊖.MIN.B
8F	CASEB	L	L	L	L	L	L	L	L	X
90	MOVB	L	L	L	H	H	L	H	L	B
91	CMPB	L	L	L	L	L	H	H	L	A.MIN.B.MIN.I
92	MCOMB	L	L	L	H	L	H	L	H	B
93	BITB	L	L	L	H	H	L	H	H	A*B
94	CLRB	L	L	L	H	L	L	H	H	0
95	TSTB	L	L	L	H	H	L	H	L	B
96	INCB	L	L	H	L	L	L	L	L	A.PL.I
97	DECB	L	L	L	L	H	H	H	H	A.MIN.I
98	CVTBL	L	L	L	L	L	L	L	L	X
99	CVTBW	L	L	L	L	L	L	L	L	X
9A	MOVZBL	L	L	L	L	L	L	L	L	X
9B	MOVEBW	L	L	L	L	L	L	L	L	X
9C	ROTL	L	L	L	L	L	L	L	L	X
9D	ACBB	L	L	L	L	L	L	L	L	X
9E	MOVAB	L	L	L	H	H	L	H	L	B
9F	IOUAB	L	L	L	H	H	L	H	L	B

ROM ADDR	OP- CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
A0	ADD2	L	L	L	L	H	L	L	H	A.PL.B
A1	ADD3	L	L	L	L	H	L	L	H	A.PL.B
A2	SUB2	L	L	H	L	L	H	L	L	A.MIN.B
A3	SUB3	L	L	H	L	L	H	L	L	A.MIN.B
A4	MUL2	L	L	L	L	L	L	L	L	X
A5	MUL3	L	L	L	L	L	L	L	L	X
A6	DIV2	L	L	L	L	L	L	L	L	X
A7	DIV3	L	L	L	L	L	L	L	L	X
A8	BIS2	L	L	L	H	H	H	H	L	A+B
A9	BIS3	L	L	L	H	H	H	H	L	A+B
AA	BIC2	L	L	L	H	L	H	H	H	A*B
AB	BIC3	L	L	L	H	L	H	H	H	A*B
AC	XOR2	L	L	L	H	L	H	H	L	A⊕B
AD	XOR3	L	L	L	H	L	H	H	L	A⊕B
AE	MNEGW	H	L	H	L	L	H	H	L	⊖.MIN.B
AF	CASEW	L	L	L	L	L	L	L	L	X
B0	MOVW	L	L	L	H	H	L	H	L	B
B1	CMPW	L	L	L	L	L	H	H	L	A.MIN.B.MIN.I
B2	MCOMW	L	L	L	H	L	H	L	H	B
B3	BITW	L	L	L	H	H	L	H	H	A*B
B4	CLRW	L	L	L	H	L	L	H	H	0
B5	TSTW	L	L	L	H	H	L	H	L	B
B6	INCW	L	L	H	L	L	L	L	L	A.PL.I
B7	DECW	L	L	L	L	H	H	H	H	A.MIN.I
B8	BISPSW	L	L	L	H	H	H	H	L	A+B
B9	BICPSW	L	L	L	H	L	H	H	H	A*B
BA	POPR	L	L	L	L	L	L	L	L	X
BB	PUSHR	L	L	L	L	L	L	L	L	X
BC	CHMK	L	L	L	L	L	L	L	L	X
BD	CHME	L	L	L	L	L	L	L	L	X
BE	CHMS	L	L	L	L	L	L	L	L	X
BF	CHMU	L	L	L	L	L	L	L	L	X

ROM ADDR	OP- CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
C0	ADD2	L	L	L	L	H	L	L	H	A.PL.B
C1	ADD3	L	L	L	L	H	L	L	H	A.PL.B
C2	SUB2	L	L	H	L	L	H	L	L	A.MIN.B
C3	SUB3	L	L	H	L	L	H	L	L	A.MIN.B
C4	MUL2	L	L	L	L	L	L	L	L	X
C5	MUL3	L	L	L	L	L	L	L	L	X
C6	DIV2	L	L	L	L	L	L	L	L	X
C7	DIV3	L	L	L	L	L	L	L	L	X
C8	BIS2	L	L	L	H	H	H	H	L	A+B
C9	BIS3	L	L	L	H	H	H	H	L	A+B
CA	BIC2	L	L	L	H	L	H	H	H	A*B
CB	BIC3	L	L	L	H	L	H	H	H	A*B
CC	XOR2	L	L	L	H	L	H	H	L	A⊕B
CD	XOR3	L	L	L	H	L	H	H	L	A⊕B
CE	MNEGL	H	L	H	L	L	H	H	L	⊖.MIN.B
CF	CASEL	L	L	L	L	L	L	L	L	X
D0	MOVL	L	L	L	H	H	L	H	L	B
D1	CMP L	L	L	L	L	L	H	H	L	A.MIN.B.MIN.I
D2	MCOML	L	L	L	H	L	H	L	H	B
D3	BITL	L	L	L	H	H	L	H	H	A*B
D4	CLRL	L	L	L	H	L	L	H	H	0
D5	TSTL	L	L	L	H	H	L	H	L	B
D6	INCL	L	L	H	L	L	L	L	L	A.PL.I
D7	DECL	L	L	L	L	H	H	H	H	A.MIN.I
D8	ADWC	L	H	L	L	H	L	L	H	A.PL.B.PL.PSLC
D9	SBWC	L	H	H	L	L	H	H	L	A.MIN.B.MIN.PSLC
DA	MTPR	L	L	L	L	L	L	L	L	X
DB	MFP R	L	L	L	L	L	L	L	L	X
DC	MOVPSL	L	L	L	L	L	L	L	L	X
DD	PUSHL	L	L	L	L	L	L	L	L	X
DE	MOVAL	L	L	L	H	H	L	H	L	B
DF	PUSHAL	L	L	L	H	H	L	H	L	B

ROM ADDR	OP- CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
E0	BBS	L	L	L	H	H	H	H	H	A
E1	BBC	L	L	L	H	H	H	H	H	A
E2	BBS5	L	L	L	H	H	H	L	H	A+B
E3	BBC5	L	L	L	H	H	H	L	H	A+B
E4	BBS C	L	L	L	H	H	L	H	H	A*B
E5	BBC C	L	L	L	H	H	L	H	H	A*B
E6	BBS5I	L	L	L	H	H	H	L	H	A+B
E7	BBC5I	L	L	L	H	H	H	L	H	A+B
E8	BLB5	L	L	L	H	H	L	H	H	A*B
E9	BLBC	L	L	L	H	L	L	H	L	A*B
EA	FFS	L	L	L	L	L	L	L	L	X
EB	FFC	L	L	L	L	L	L	L	L	X
EC	CMPV	L	L	L	L	L	H	H	L	A.MIN.B.MIN.I
ED	CMPZV	L	L	L	L	L	H	H	L	A.MIN.B.MIN.I
EE	EXTV	L	L	L	L	L	L	L	L	X
EF	EXTZV	L	L	L	L	L	L	L	L	X
F0	INSV	L	L	L	L	L	L	L	L	X
F1	ACBL	L	L	L	L	L	L	L	L	X
F2	AOBLS5	L	L	L	L	L	L	L	L	X
F3	AOBLEQ	L	L	L	L	L	L	L	L	X
F4	SOBGEQ	L	L	L	L	L	L	L	L	X
F5	SOBSTR	L	L	L	L	L	L	L	L	X
F6	CVTLB	L	L	L	L	L	L	L	L	X
F7	CVTLW	L	L	L	L	L	L	L	L	X
F8	ASHP	L	H	L	L	L	H	H	L	A.MIN.B.MIN.PSLC
F9	CVTLP	L	H	L	L	L	H	H	L	A.MIN.B.MIN.PSLC
FA	CALL6	L	L	L	L	L	L	L	L	X
FB	CALL5	L	L	L	L	L	L	L	L	X
FC	XFC	L	L	L	L	L	L	L	L	X
FD	ESCD	L	L	L	L	L	L	L	L	X
FE	ESCE	L	L	L	L	L	L	L	L	X
FF	ESCF	L	L	L	L	L	L	L	L	X

DCS M8229-0-1

B

A

REVISIONS		
CHK	CHANGE NO.	REV.

(SLOT 13)
(VAX ALU INSTR. DEP ROM—2302681-00)

TITLE		NUMBER	REV.
DATA PATH CONTROL		DCS M8229-0-1	B
SCALE	NONE	SHEET 19 OF 21	DIST.

THE DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COMED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
00	X	L	L	L	L	L	L	L	L	X
01	MOV	L	L	L	H	H	L	H	L	B
02	CMP	L	L	L	L	L	H	H	L	A MIN. B. MIN. 1
03	BIT	L	L	L	H	H	L	H	H	A * B
04	BIC	L	L	L	H	L	H	H	H	A * B
05	BIS	L	L	L	H	H	H	H	L	A + B
06	ADD	L	L	L	L	H	L	L	H	A. PL. B
07	MUL	L	L	L	L	L	L	L	L	X
08	X	L	L	L	L	L	L	L	L	X
09	MOV	L	L	L	H	H	L	H	L	B
0A	CMP	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
0B	BIT	L	L	L	H	H	L	H	H	A * B
0C	BIC	L	L	L	H	L	H	H	H	A * B
0D	BIS	L	L	L	H	H	H	H	L	A + B
0E	ADD	L	L	L	L	H	L	L	H	A. PL. B
0F	DIV	L	L	L	L	L	L	L	L	X
10	X	L	L	L	L	L	L	L	L	X
11	MOV	L	L	L	H	H	L	H	L	B
12	CMP	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
13	BIT	L	L	L	H	H	L	H	H	A * B
14	BIC	L	L	L	H	L	H	H	H	A * B
15	BIS	L	L	L	H	H	H	H	L	A + B
16	ADD	L	L	L	L	H	L	L	H	A. PL. B
17	ASH	L	L	L	L	L	L	L	L	X
18	X	L	L	L	L	L	L	L	L	X
19	MOV	L	L	L	H	H	L	H	L	B
1A	CMP	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
1B	BIT	L	L	L	H	H	L	H	H	A * B
1C	BIC	L	L	L	H	L	H	H	H	A * B
1D	BIS	L	L	L	H	H	H	H	L	A + B
1E	ADD	L	L	L	L	H	L	L	H	A. PL. B
1F	ASHC	L	L	L	L	L	L	L	L	X

ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
20	X	L	L	L	L	L	L	L	L	X
21	MOV	L	L	L	H	H	L	H	L	B
22	CMP	L	L	L	L	L	H	H	L	A MIN. B. MIN. 1
23	BIT	L	L	L	H	H	L	H	H	A * B
24	BIC	L	L	L	H	L	H	H	H	A * B
25	BIS	L	L	L	H	H	H	H	L	A + B
26	ADD	L	L	L	L	H	L	L	H	A. PL. B
27	XOR	L	L	L	H	L	H	H	L	A. MIN. B
28	X	L	L	L	L	L	L	L	L	X
29	MOV	L	L	L	H	H	L	H	L	B
2A	CMP	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
2B	BIT	L	L	L	H	H	L	H	H	A * B
2C	BIC	L	L	L	H	L	H	H	H	A * B
2D	BIS	L	L	L	H	H	H	H	L	A + B
2E	ADD	L	L	L	L	H	L	L	H	A. PL. B
2F	X	L	L	L	L	L	L	L	L	X
30	X	L	L	L	L	L	L	L	L	X
31	MOV	L	L	L	H	H	L	H	L	B
32	CMP	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
33	BIT	L	L	L	H	H	L	H	H	A * B
34	BIC	L	L	L	H	L	H	H	H	A * B
35	BIS	L	L	L	H	H	H	H	L	A + B
36	ADD	L	L	L	L	H	L	L	H	A. PL. B
37	X	L	L	L	L	L	L	L	L	X
38	X	L	L	L	L	L	L	L	L	X
39	MOV	L	L	L	H	H	L	H	L	B
3A	CMP	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
3B	BIT	L	L	L	H	H	L	H	H	A * B
3C	BIC	L	L	L	H	L	H	H	H	A * B
3D	BIS	L	L	L	H	H	H	H	L	A + B
3E	ADD	L	L	L	L	H	L	L	H	A. PL. B
3F	SOB	L	L	L	L	H	H	H	H	A. MIN. 1

ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
40	X	L	L	L	L	L	L	L	L	X
41	MOVB	L	L	L	H	H	L	H	L	B
42	CMPB	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
43	BITB	L	L	L	H	H	L	H	H	A * B
44	BICB	L	L	L	H	L	H	H	H	A * B
45	BISB	L	L	L	H	H	H	H	L	A + B
46	SUB	L	L	H	L	L	H	H	L	A. MIN. B
47	X	L	L	L	L	L	L	L	L	X
48	X	L	L	L	L	L	L	L	L	X
49	MOVB	L	L	L	H	H	L	H	L	B
4A	CMPB	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
4B	BITB	L	L	L	H	H	L	H	H	A * B
4C	BICB	L	L	L	H	L	H	H	H	A * B
4D	BISB	L	L	L	H	H	H	H	L	A + B
4E	SUB	L	L	H	L	L	H	H	L	A. MIN. B
4F	X	L	L	L	L	L	L	L	L	X
50	X	L	L	L	L	L	L	L	L	X
51	MOVB	L	L	L	H	H	L	H	L	B
52	CMPB	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
53	BITB	L	L	L	H	H	L	H	H	A * B
54	BICB	L	L	L	H	L	H	H	H	A * B
55	BISB	L	L	L	H	H	H	H	L	A + B
56	SUB	L	L	H	L	L	H	H	L	A. MIN. B
57	X	L	L	L	L	L	L	L	L	X
58	X	L	L	L	L	L	L	L	L	X
59	MOVB	L	L	L	H	H	L	H	L	B
5A	CMPB	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
5B	BITB	L	L	L	H	H	L	H	H	A * B
5C	BICB	L	L	L	H	L	H	H	H	A * B
5D	BISB	L	L	L	H	H	H	H	L	A + B
5E	SUB	L	L	H	L	L	H	H	L	A. MIN. B
5F	X	L	L	L	L	L	L	L	L	X

ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
60	X	L	L	L	L	L	L	L	L	A
61	MOVB	L	L	L	H	H	L	H	L	B
62	CMPB	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
63	BITB	L	L	L	H	H	L	H	H	A * B
64	BICB	L	L	L	H	L	H	H	H	A * B
65	BISB	L	L	L	H	H	H	H	L	A + B
66	SJB	L	L	H	L	L	H	H	L	A. MIN. B
67	X	L	L	L	L	L	L	L	L	X
68	X	L	L	L	L	L	L	L	L	X
69	MOVB	L	L	L	H	H	L	H	L	B
6A	CMPB	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
6B	BITB	L	L	L	H	H	L	H	H	A * B
6C	BICB	L	L	L	H	L	H	H	H	A * B
6D	BISB	L	L	L	H	H	H	H	L	A + B
6E	SJB	L	L	H	L	L	H	H	L	A. MIN. B
6F	X	L	L	L	L	L	L	L	L	X
70	X	L	L	L	L	L	L	L	L	X
71	MOVB	L	L	L	H	H	L	H	L	B
72	CMPB	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
73	BITB	L	L	L	H	H	L	H	H	A * B
74	BICB	L	L	L	H	L	H	H	H	A * B
75	BISB	L	L	L	H	H	H	H	L	A + B
76	SUB	L	L	H	L	L	H	H	L	A. MIN. B
77	X	L	L	L	L	L	L	L	L	X
78	X	L	L	L	L	L	L	L	L	X
79	MOVB	L	L	L	H	H	L	H	L	B
7A	CMPB	L	L	L	L	L	H	H	L	A. MIN. B. MIN. 1
7B	BITB	L	L	L	H	H	L	H	H	A * B
7C	BICB	L	L	L	H	L	H	H	H	A * B
7D	BISB	L	L	L	H	H	H	H	L	A + B
7E	SUB	L	L	H	L	L	H	H	L	A. MIN. B
7F	X	L	L	L	L	L	L	L	L	X

11 COMP ROM ADDR, INSTR - 18 BYTE BIT ENCODING
IR (14:12) = 0 L H 15 11 10 9 8 7 6
IR (14:12) = 0 L L 15 11 10 9 14 13 12

REVISIONS		
CHK	CHANGE NO.	REV.

COMP MODE ALU INSTR DEP ROM — 2302781-00 (SLOT 13)

TITLE		SIZE CODE	NUMBER	REV.
DATA PATH CONTROL		DCS M8229-0	- 1	B
SCALE	NONE	SHEET	20 OF 21	DIST.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
80	X	L	L	L	L	L	L	L	L	X
81	JMP									X
82	X									X
83	SWAB									X
84	BR									X
85	BR									X
86	BR									X
87	BR									X
88	BNE									X
89	BNE									X
8A	BNE									X
8B	BNE									X
8C	BEQ									X
8D	BEQ									X
8E	BEQ									X
8F	BEQ									X
90	BGE									X
91	BGE									X
92	BGE									X
93	BGE									X
94	BLT									X
95	BLT									X
96	BLT									X
97	BLT									X
98	BGT									X
99	BGT									X
9A	BGT									X
9B	BGT									X
9C	BLE									X
9D	BLE									X
9E	BLE									X
9F	BLE									X

ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
A0	JSR	L	L	L	L	L	L	L	L	X
A1	JSR									X
A2	JSR									X
A3	JSR									X
A4	JSR									X
A5	JSR									X
A6	JSR									X
A7	JSR									X
A8	CLR	L	L	L	H	L	L	H	H	0
A9	COM	L	L	L	H	L	L	L	L	A
AA	INC	L	L	H	L	L	L	L	L	A.PL.1
AB	DEC	L	L	L	L	H	H	H	H	A.MIN.1
AC	NEG	H	L	H	L	L	H	H	L	0.MIN.0
AD	ADC	L	H	L	L	L	L	L	L	A.PL.C
AE	SBC	L	H	H	L	H	H	H	H	A.MIN.C
AF	TST	L	L	L	H	H	H	H	H	A
B0	ROR	L	L	L	L	L	L	L	L	X
B1	ROL	L	H	L	L	H	H	L	L	A.PL.A.PL.C
B2	ASR	L	L	L	L	L	L	L	L	X
B3	ASL	L	L	L	L	H	H	L	L	A.PL.A
B4	MARK	L	L	L	L	L	L	L	L	X
B5	MFPI	L	L	L	H	H	H	H	H	A
B6	MTPPI	L	L	L	H	H	H	H	H	A
B7	SXT	L	L	L	L	L	L	L	L	X
B8	X									X
B9	X									X
BA	X									X
BB	X									X
BC	X									X
BD	X									X
BE	X									X
BF	X									X

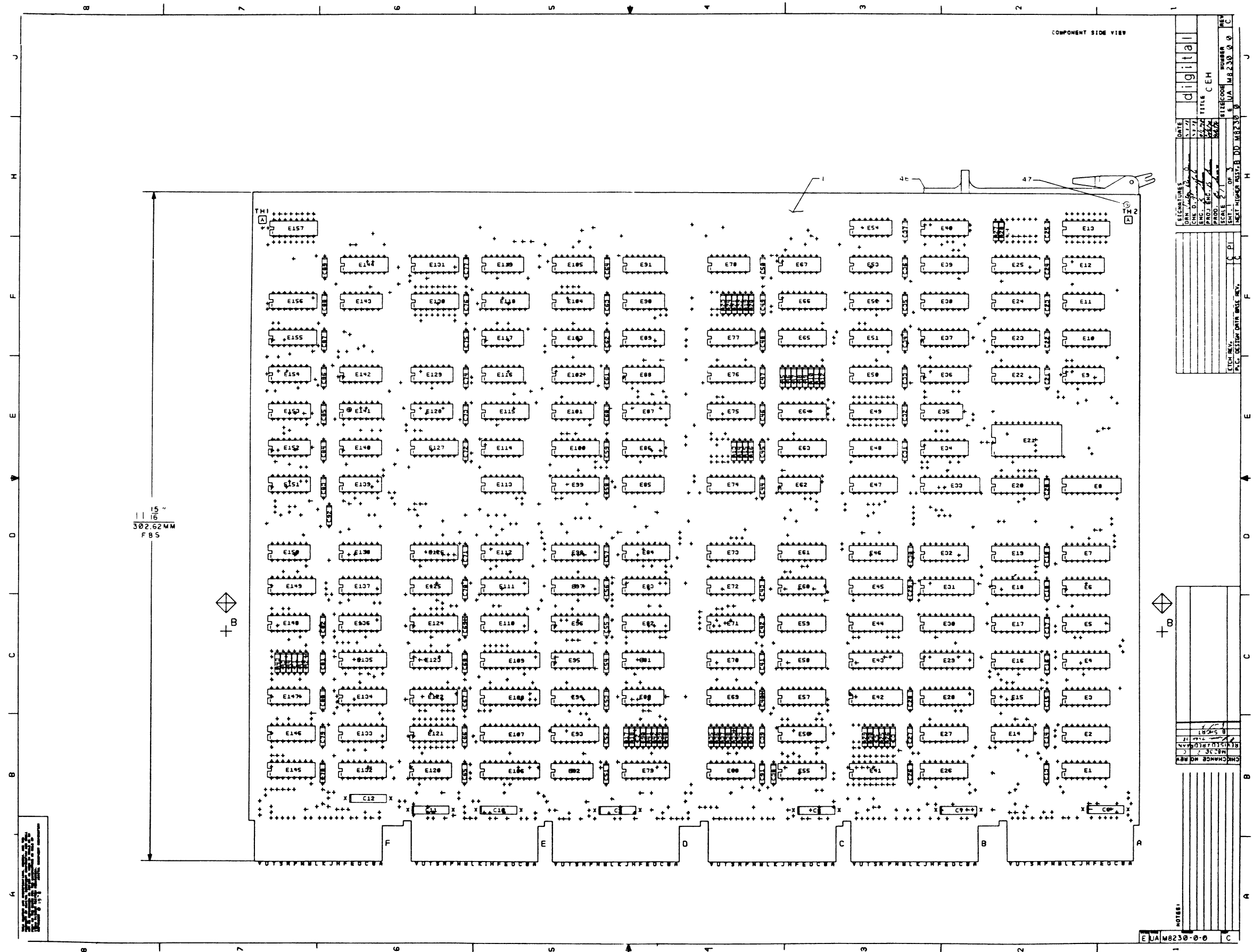
ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
C0	BPL	L	L	L	L	L	L	L	L	X
C1	BPL									X
C2	BPL									X
C3	BPL									X
C4	BMI									X
C5	BMI									X
C6	BMI									X
C7	BMI									X
C8	BHI									X
C9	BHI									X
CA	BHI									X
CB	BHI									X
CC	BLOS									X
CD	BLOS									X
CE	BLOS									X
CF	BLOS									X
D0	BVC									X
D1	BVC									X
D2	BVC									X
D3	BVC									X
D4	BVS									X
D5	BVS									X
D6	BVS									X
D7	BVS									X
D8	BCC									X
D9	BCC									X
DA	BCC									X
DB	BCC									X
DC	BCS									X
DD	BCS									X
DE	BCS									X
DF	BCS									X

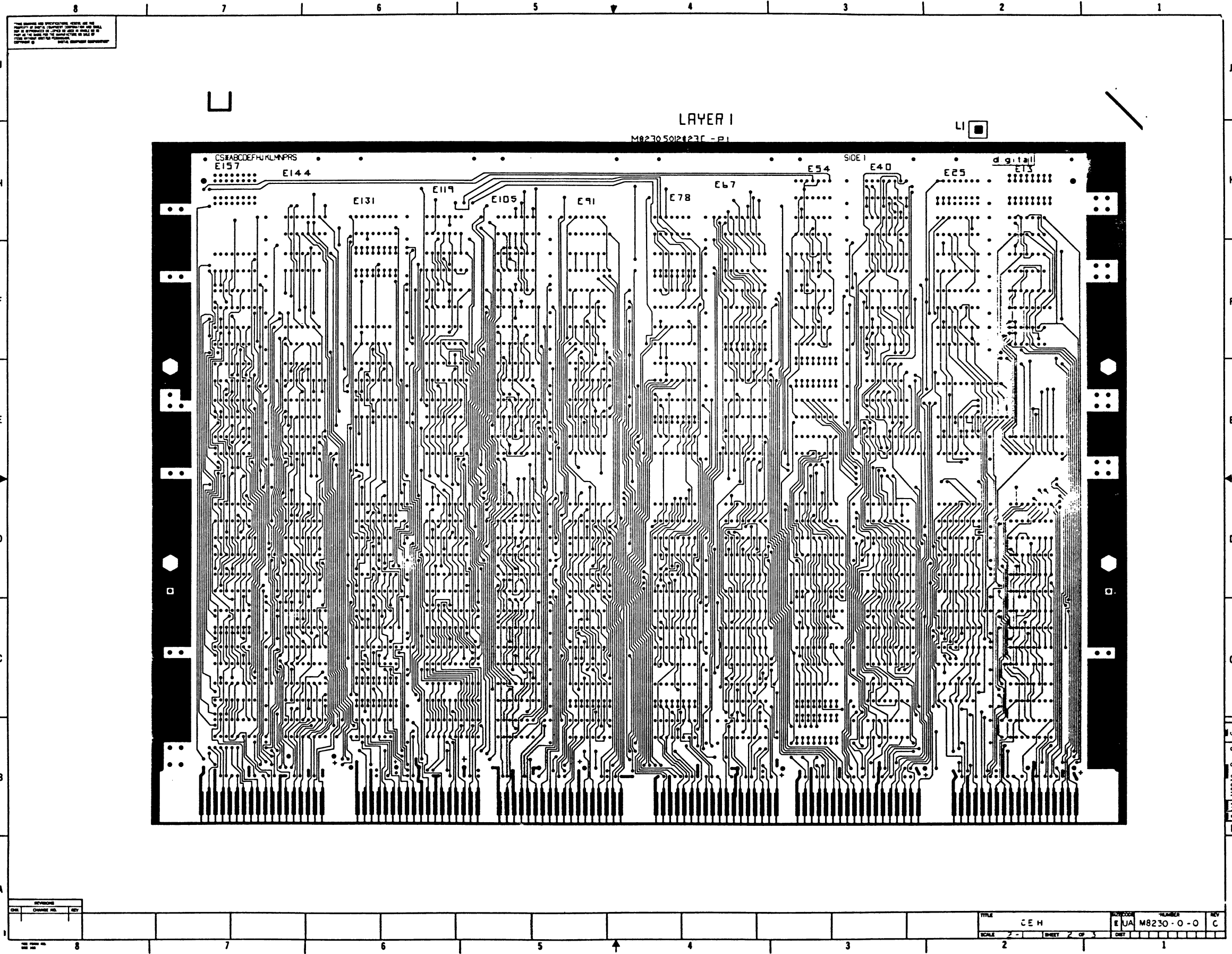
ROM ADDR	OP-CODE	ROM DATA								FUNCTION
		M7	M6	M5	M4	M3	M2	M1	M0	
E0	ENT	L	L	L	L	L	L	L	L	X
E1	ENT									X
E2	ENT									X
E3	ENT									X
E4	TRAP									X
E5	TRAP									X
E6	TRAP									X
E7	TRAP									X
E8	CLRB	L	L	L	H	L	L	H	H	0
E9	COMB	L	L	L	H	L	L	L	L	A
EA	INCB	L	L	H	L	L	L	L	L	A.PL.1
EB	DECB	L	L	L	L	H	H	H	H	A.MIN.1
EC	NEGB	H	L	H	L	L	H	H	L	0.MIN.0
ED	ADCB	L	H	L	L	L	L	L	L	A.PL.C
EE	SBCB	L	H	H	L	H	H	H	H	A.MIN.C
EF	TSTB	L	L	L	H	H	H	H	H	A
F0	RORB	L	L	L	L	L	L	L	L	X
F1	ROLB	L	H	L	L	H	H	L	L	A.PL.A.PL.C
F2	ASRB	L	L	L	L	L	L	L	L	X
F3	ASLB	L	L	L	L	H	H	L	L	A.PL.A
F4	X	L	L	L	L	L	L	L	L	X
F5	MFPD	L	L	L	H	H	H	H	H	A
F6	MTPD	L	L	L	H	H	H	H	H	A
F7	X	L	L	L	L	L	L	L	L	X
F8	X									X
F9	X									X
FA	X									X
FB	X									X
FC	X									X
FD	X									X
FE	X									X
FF	X									X

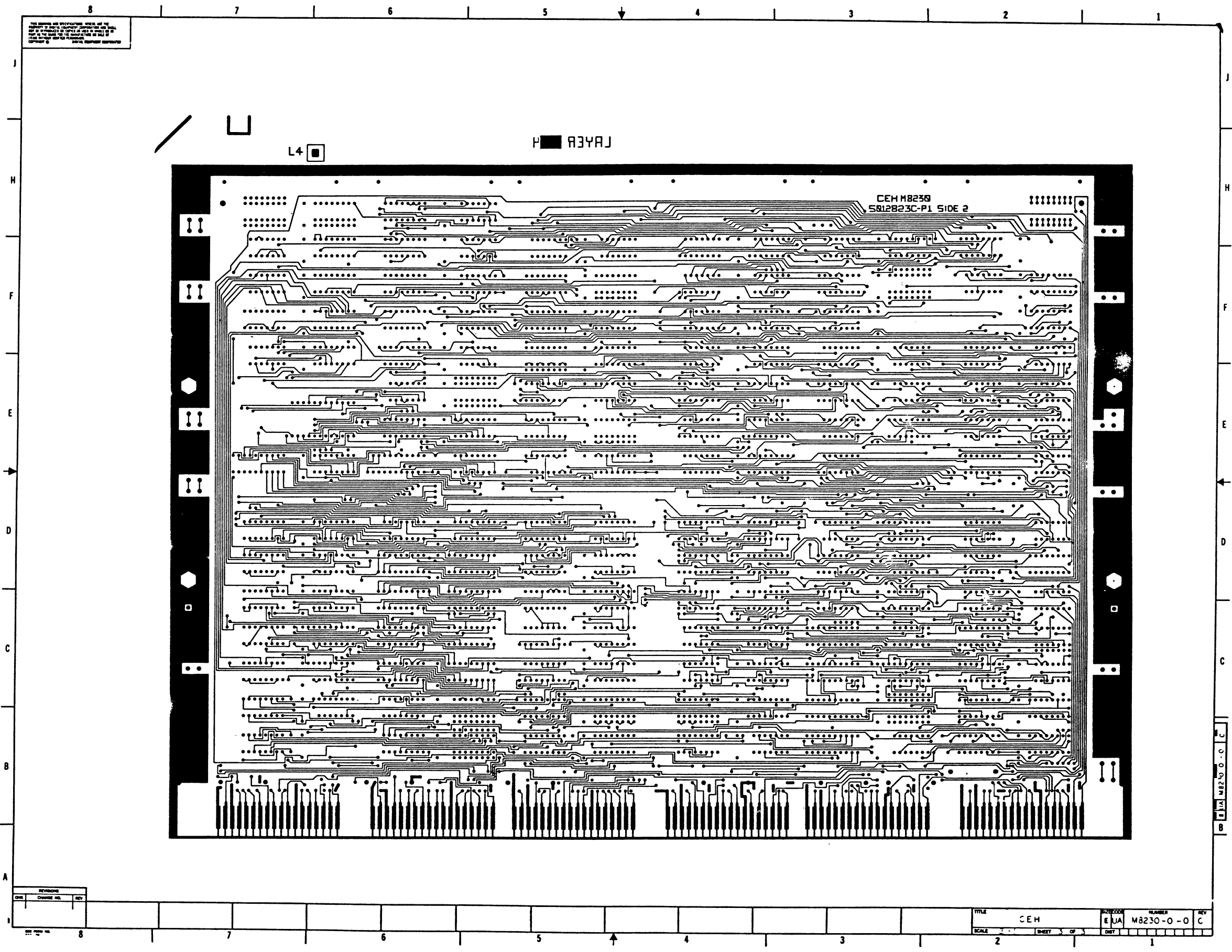
REVISIONS		
CHK	CHANGE NO.	REV

COMP MODE ALU INSTR DEP. ROM — 23027B1 (SLOT 13)

TITLE		SIZE/CODE	NUMBER	REV.
DATA PATH CONTROL		DCS	M8229-0-1	B
SCALE	NONE	SHEET	21 OF 21	DIST







THIS DRAWING AND ITS CONTENTS ARE THE PROPERTY OF THE U.S. GOVERNMENT AND ARE NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

REVISIONS		
NO.	DESCRIPTION	REV.
1		

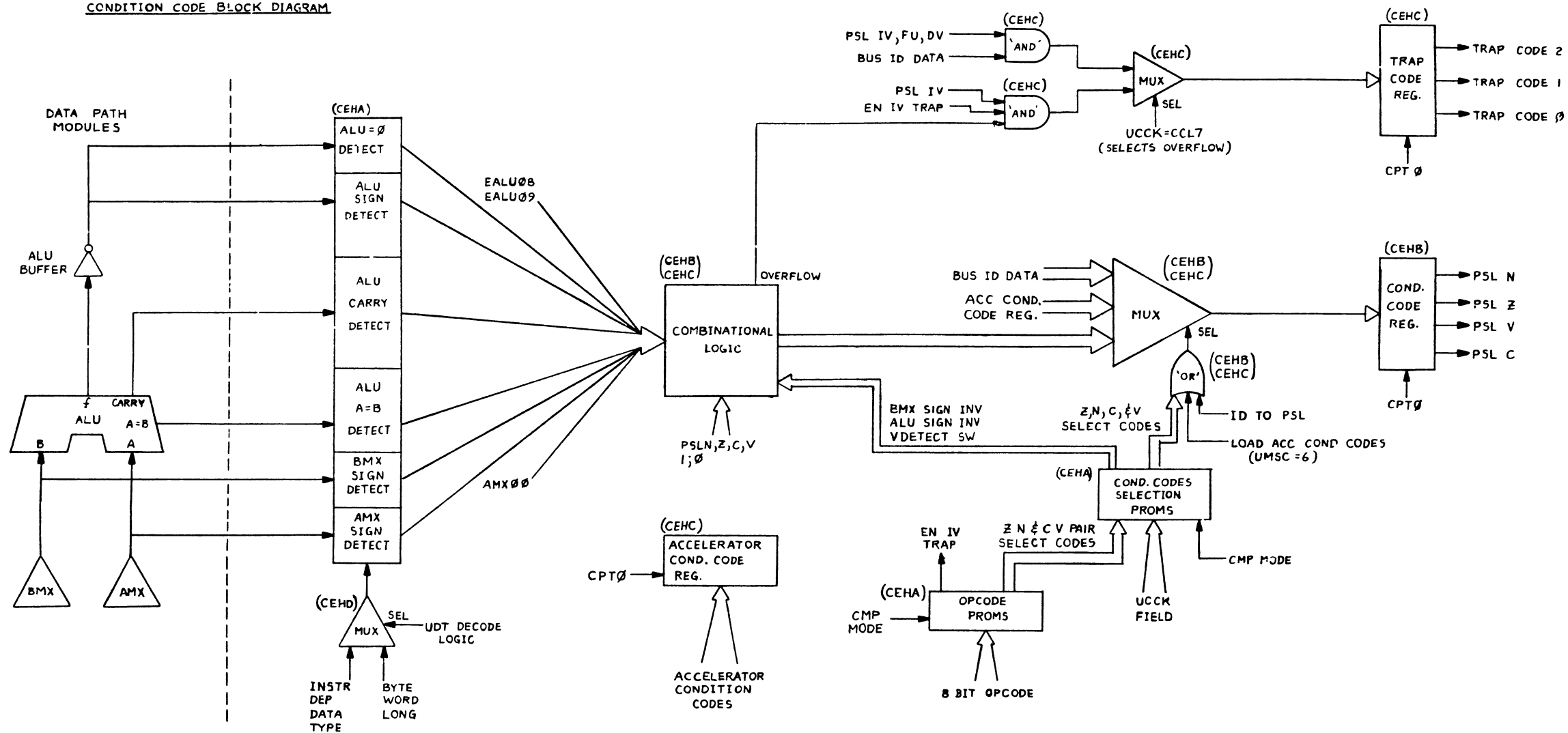
TITLE										SIZE		NUMBER				REV	
CEH										EUA		M8230-0-0				C	
SCALE					SHEET					OF					DIST		
2										1							

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:					
MADE BY DATE		ANTAL		CHECKED L. GIAMMARINO DATE 7-5-77		SECTION													
ENG DATE		S. Jenkins 6-22-77		PROD DATE Mike Teller 6-27-77		ISSUED SECTION													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8230-0-0													REF DESIGNATION		
1	D-MD-5012823	5012823	ETCH BOARD	1															
2		1012784	CAPACITOR, .047UF 50 V	25													C1-C5, C13-C92		
3		1012084-1	CAPACITOR, 8UF 25 V	7													C6-C12		
4		1300247	RESISTOR 120, 1/4W, 5%	6													R31, R33, R35, R37, R39, R41		
5		1300250	RESISTOR 150, 1/4W, 5%	6													R32, R34, R36, R38, R40, R42		
6		1300295	RESISTOR 330, 1/4W, 5%	14													R1, R5, R7, R9, R11, R13, R15, R17, R19, R21, R23, R25, R27, R29		
7		130365	RESISTOR 1K, 1/4W, 5%	3													R3, R4, R43		
8		1301424	RESISTOR 680, 1/4W, 5%	5													R2, R26, R30, R18, R28		
9		1301775	RESISTOR 820, 1/4W, 5%	9													R6, R8, R10, R12, R14, R16, R20, R22, R24		
10		1910531	I.C. DEC 74S181	1													E21		
11		1910532	I.C. DEC 74S00	11													E35, E50, E53, E103, E112, E113, E114, E117, E138, E123, E143		
12		1910534	I.C. DEC 74S04	14													E9, E14, E67, E81, E85, E90, E92, E102, E120, E125, E148, E151, E11, E140		
13		1910536	I.C. DEC 74S10	5													E78, E86, E105, E141, E142		
14		1910537	I.C. DEC 74S11	2													E51, E88		
15		1910539	I.C. DEC 74S20	2													E91, E119		
16		1910542	I.C. DEC 74S64	7													E12, E136, E137, E147, E152, E153, E154		
17		1910544	I.C. DEC 74S74	2													E52, E80		
18		1910545	I.C. DEC 74S112	2													E94, E111		
19		1910547	I.C. DEC 74S153	3													E118, E132, E145		
ECO. NO. 10001																			
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE				ASSY NO.				SIZE	CODE	NUMBER		REV.			
				CEH				E-UA-M8230-0-0				B	PL	M8230 0-0		B			
				SHEET 1 OF 3				INSERTION PARTS LIST DATA BASE REV											

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:							
MADE BY DATE		ANTAL		CHECKED DATE		L. GIAMMARINO 7-5-77		SECTION															
ENG DATE		S. Jenkins 6-27-77		PROD DATE		Mike Tullio 6-21-77		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8230-0-0													REF DESIGNATION						
20		1910548	I.C. DEC 74S157	6													E22,E24,E36,E38,E100,E155						
21		1910549	I.C. DEC 74S158	3													E20,E83,E87						
22		1910550	I.C. DEC 74S174	3													E32,E46,E47						
23		1910552	I.C. DEC 74S194	13													E23,E25,E34,E37,E39,E48,E63,E64,E74,E75, E82,E93,E99						
24		1910956	I.C. DEC 74S151	20													E3,E4,E5,E6,E15,E16,E17,E18,E57,E58,E59, E60,E69,E70,E71,E72,E110,E124,E126,E156						
25		1910957	I.C. DEC 74S175	5													E65,E77,E122,E131,E149						
26		1911415	I.C. DEC 10125	2													E68,E79						
27		1911469	I.C. DEC 8640	1													E116						
28		1911675	I.C. DEC 74S138	2													E66,E127						
29		1911676	I.C. DEC 74S139	1													E76						
30		1911712	I.C. DEC 74S51	2													E129,E139						
31		1912089	I.C. DEC 74S85	2													E10,E40						
32		1912096	I.C. DEC 74S86	1													E128						
33		1912388	I.C. DEC 74S02	1													E89						
34		1912389	I.C. DEC 74S08	5													E54,E95,E101,E104,E150						
35		1912586	I.C. DEC 85S68	8													E28,E29,E30,E31,E42,E43,E44,E45						
36		1912746	I.C. DEC 74S37	1													E62						
37		1912796	I.C. DEC 74148	2													E84,E97						
38		1913294	I.C. DEC 93S16	4													E7,E19,E61,E73						
E.C.O. NO.																							
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE CEH				ASSY NO. E-UA-M8230-0-0				SIZE B		CODE PL		NUMBER M8230-0-0		REV. B					
								SHEET 2 OF 3				INSERTION PARTS LIST DATA BASE REV											

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION

CONDITION CODE BLOCK DIAGRAM



(CONDITION CODE BLOCK DIAGRAM)

DRAW. AFM	5/18/77	FIRST USED ON	0100000			
CHKT	6202	TITLE COND. CODES EXCEPT. AND HIGH BITS				
ENG.	620777					
PROL ENG.	620777					
PROD.	620777					
NEXT HIGHER ASSY.						
			SIZE	CODE	NUMBER	REV.
SCALE			D	CS	M8230-0-1	C
SHEET						
OF 29						

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1970 DIGITAL EQUIPMENT CORPORATION

CONDITION CODE SELECTION CODES

DATA PATH CONDITION CODE DETECT SIGNALS

DATA TYPE \ DETECT COND.	AMX SIGN	BMX SIGN	ALU A = B	ALU CARRY	ALU SIGN	ALU = 0
BYTE	AMX07	BMX07	ALU(07 00) A = B	ALU CARRY 07	ALU 07	ALU (07 00) = 0
WORD	AMX15	BMX15	ALU(15 00) A = B	ALU CARRY 15	ALU 15	ALU (15 00) = 0
LONG QUAD	AMX31	BMX31	ALU(31 00) A = B	ALU CARRY 31	ALU 31	ALU (31 00) = 0
FLOAT DOUBLE	0	0	0	0	ALU 15	ALU (15 07) = 0

INSTRUCTION DEPENDENT ZN PAIR SELECT CODES

ZN CODE	CMP MODE	Z COND	ZSEL	N COND	NSEL	INV ALU SIGN	V DETECT SW
0	X	PSL Z	0	PSL N	0	X	X
1	X	ALU = 0	3	ALU SIGN	1	0	X
2	0	ALU A = B	2	ALU SIGN ⊕ SUB V DET	5	X	0
2	1	ALU A = B	2	ALU SIGN	1	1	X
3	0	ALU = 0	3	ALU SIGN	1	0	X
3	1	ALU = 0	3	PSL N	0	X	X
4	0	PSL Z	0	ALU SIGN	1	0	X
4	1	1	4	ALU SIGN	1	0	X
5	0	ALU = 0	3	0	4	X	X
5	1	UNUSED	X	UNUSED	X	X	X
6	0	UNUSED	X	UNUSED	X	X	X
6	1	UNUSED	X	UNUSED	X	X	X
7	0	UNUSED	X	UNUSED	X	X	X
7	1	UNUSED	X	UNUSED	X	X	X

ADD V DET = (AMX SIGN • BMX SIGN • ALU SIGN) + (AMX SIGN • BMX SIGN • ALU SIGN)
INC V DET = (AMX SIGN • ALU SIGN)
SUB V DET = (AMX SIGN • BMX SIGN • ALU SIGN) + (AMX SIGN • BMX SIGN • ALU SIGN)
DEC V DET = (AMX SIGN • ALU SIGN)
EXP V DET = EALU09 • EALU00

INSTRUCTION DEPENDENT CV PAIR SELECT CODES

CV CODE	CMP MODE	C COND	CSCL		V COND	VSEL	V DETECT SW	INV BMX SIGN
0	X	PSL C	0		0	5	0	X
1	X	0	3		0	5	0	X
2	X	ALU CARRY	1		ADD V DET	0	0	1
3 N1	X	ALU CARRY	1		INC V DET	0	1	0
4	X	ALU CARRY	5		SUB V DET	0	0	0
5 N1	X	ALU CARRY	5		DEC V DET	0	1	1
6 N1	X	PSL C	0		INC V DET	0	1	0
7 N1	X	PSL C	0		DEC V DET	0	1	1
8 N1	0	0	3		EXP V DET	6	1	X
8	1	1	7		0	5	0	X
9 N1	0	PSL C	0		EXP V DET	6	1	X
9 N1	1	1	7		1	5	1	X
A	0	ALU CARRY	1		0	5	0	X
A	1	ALU CARRY	1		SUB V DET	0	0	0
B	0	0	3		ALU ≠ 0	6	0	X
B	1	ALU ≠ 0	2		0	5	0	X
C	0	PSL C	0		ADD V DET	0	0	1
C	1	PSL C	0		PSL C ⊕ ALU SIGN	4	X	X
D N1	0	0	3		INC V DET	0	1	0
D N1	1	AMX SIGN	6		AMX SIGN ⊕ ALU SIGN	1	1	1
E	0	UNUSED	X		UNUSED	X	X	X
E N1	1	AMX SIGN	6		(AMX SIGN ⊕ ALU SIGN) + PSL V	2	1	1
F	0	UNUSED	X		UNUSED	X	X	X
F	1	UNUSED	X		UNUSED	X	X	X

N1. CANNOT BE USED WITH ZN CODE 2 (CMP MODE = 0) DUE TO USE OF V DETECT SW

REVISIONS		
CHK	CHANGE NO.	REV

(CONDITION CODE DECODING TABLES)

TITLE		COND. CODES EXCEPT. AND HIGH BITS	SIZE CODE	NUMBER	REV.
SCALE		11	SHEET	2 OF 29	DIST.
				DCS M8230-2-1	C

8

7

6

5

4

3

2

1

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

UCCK FIELD & ARITHMETIC TRAP CODES

UCCK FIELD DESCRIPTION

UCCK	OMP CODE	Z CONDITION	N CONDITION	C CONDITION	V CONDITION	ZSEL	NSEL	INV ALL SIGN		CSEL	VSEL	INV BXX SIGN	V DETECT SW
0	X	PSL Z	PSL N	PSL C	PSL V	0	0	X		0	3	X	X
1 N1	X	PSL Z	PSL N	PSL C	PSL V	0	0	X		0	3	X	0
2	0	PSL Z	PSL N	PSL C	1	0	0	X		0	5	X	1
2	1	X	X	X	X	X	X	X		X	X	X	X
3	X	(PSL Z) * (ALL = 0)	AMX SIGN	PSL C	PSL V	1	2	X		0	3	X	X
4	0	X	X	X	X	X	X	X		X	X	X	X
4	1	ALL = 0	ALL SIGN	AMX 00	0	3	1	0		4	5	X	0
5	X	ALL = 0	ALL SIGN	0	0	3	1	0		3	5	X	0
6	0	ALL = 0	ALL SIGN	PSL C	PSL V	3	1	0		0	3	X	X
6	1	PSL Z	PSL N	AMX 00	PSL V	0	0	X		4	3	X	X
7	X	INSTR'CTION DEPENDENT - OPCODE SELECTS ZN & CV PAIR SELECT CODES											

NT UCCK = 1 LOADS UBRANCH COND. CODES

ALL NDATA

A PLUS B L	A MINUS B L	ALL NDATA
H	H	ALL SIGN
H	L	[ALL SIGN * AMX SIGN * BXX SIGN] + [ALL SIGN * (AMX SIGN + BXX SIGN)]
L	H	[ALL SIGN * AMX SIGN * BXX SIGN] + [ALL SIGN * (AMX SIGN + BXX SIGN)]
L	L	X

ARITHMETIC TRAP CODES

TRAP CODE	TRAP CONDITION	ENABLE CONDITION	LOAD CONDITION
0	NO TRAP	1	ID TO CES
1	INTEGER OVERFLOW	(PSL IV) * (EN IV TRAP)	UCCK = 7
		PSL IV	ID TO CES
2	INTEGER DIVIDE BY ZERO	1	ID TO CES
3	FLOATING OVERFLOW	1	ID TO CES
4	FLOATING OR DECIMAL DIVIDE BY ZERO	1	ID TO CES
5	FLOATING UNDERFLOW	PSL FU	ID TO CES
6	DECIMAL OVERFLOW	PSL OV	ID TO CES
7	SUBSCRIPT RANGE	1	ID TO CES

REVISIONS

CHK	CHANGE NO.	REV

(CONDITION CODE & ARITHMETIC TRAP DECODING TABLES)

TITLE	COND. CODES EXCEPT. AND HIGH BITS	SIZE CODE	NUMBER	REV.
		D CS	M6230-0-1	C
SCALE		SHEET	3 OF 29	DIST.

8

7

6

5

4

3

2

1

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

UTRAP LOGIC DESCRIPTION
(CEHE)

PAGE TRAP

PAGE
BOUNDARY

PAGE
EDGE
V1(08:03)-15

VA(Ø2:ØØ)

III	IIQ	IOI	IOQ	OII	OIO	OPI	IOO
BYTE 7	BYTE 6	BYTE 5	BYTE 4	BYTE 3	BYTE 2	BYTE 1	BYTE 0

MEMORY
ADDRESS :

PAGE TRAP CONDITION

DATA TYPE OF REFERENCE
WORD, LONG, FLOAT, QUAD, DOUBLE
LONG, FLOAT, QUAD, DOUBLE
LONG, FLOAT, QUAD, DOUBLE
QUAD, DOUBLE
QUAD, DOUBLE
QUAD, DOUBLE

UNALIGN TRAP

MEMORY
ADDRESS:

LONG WORD
BOUNDARY
(ADDRESS = N+4)

LONG WORD
BOUNDARY
(ADDRESS = N)

$$v_A(\emptyset_1; \emptyset \emptyset)$$

	11	10	01	00
BYTE 3	BYTE 2	BYTE 1	BYTE 0	

UNALIGN TRAP CONDITION

DATA TYPE OF REFERENCE
WORD, LONG, FLOAT, QUAD, DOUBLE
LONG, FLOAT, QUAD, DOUBLE
LONG, FLOAT, QUAD, DOUBLE

UTRAP VECTORS

UTRAP CONDITION	UTRAP VECTOR	PRIORITY
SYSTEM INIT	100	HIGHEST
CS PARITY ERROR	10F	
ODD ADDRESS ERROR	10E	
TIMEOUT	10D	
READ DATA SUBSTITUTE	10C	
CACHE PARITY ERROR	108	
TBUF PARITY ERROR	107	
RESERVED FLOAT OPERAND	106	
TBUF MISS	105	
PROTECTION VIOLATION	104	
MODIFY BIT	103	
PAGE TRAP	102	
UNALIGN TRAP	101	LOWEST

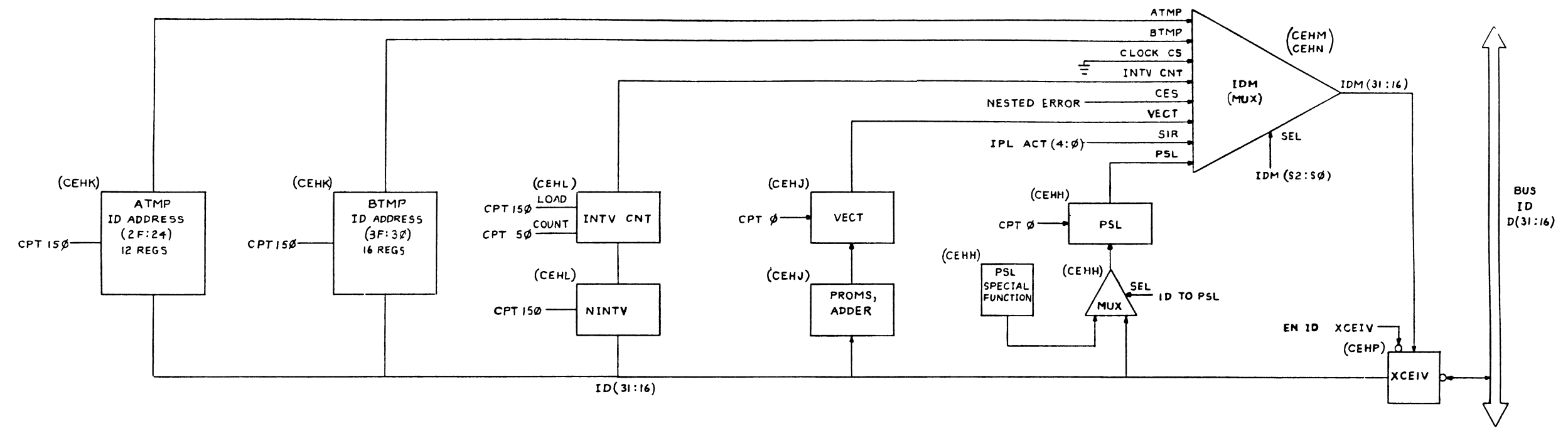
REVISIONS		
CHK	CHANGE NO.	REV

(UTRAP LOGIC DESCRIPTION)

TITLE COND. CODES EXCEPT. AND HIGH BITS		SIZE D	CODE CS	NUMBER M8230-0-1		REV. C
SCALE —/—	SHEET 4 OF 29	DIST.				

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

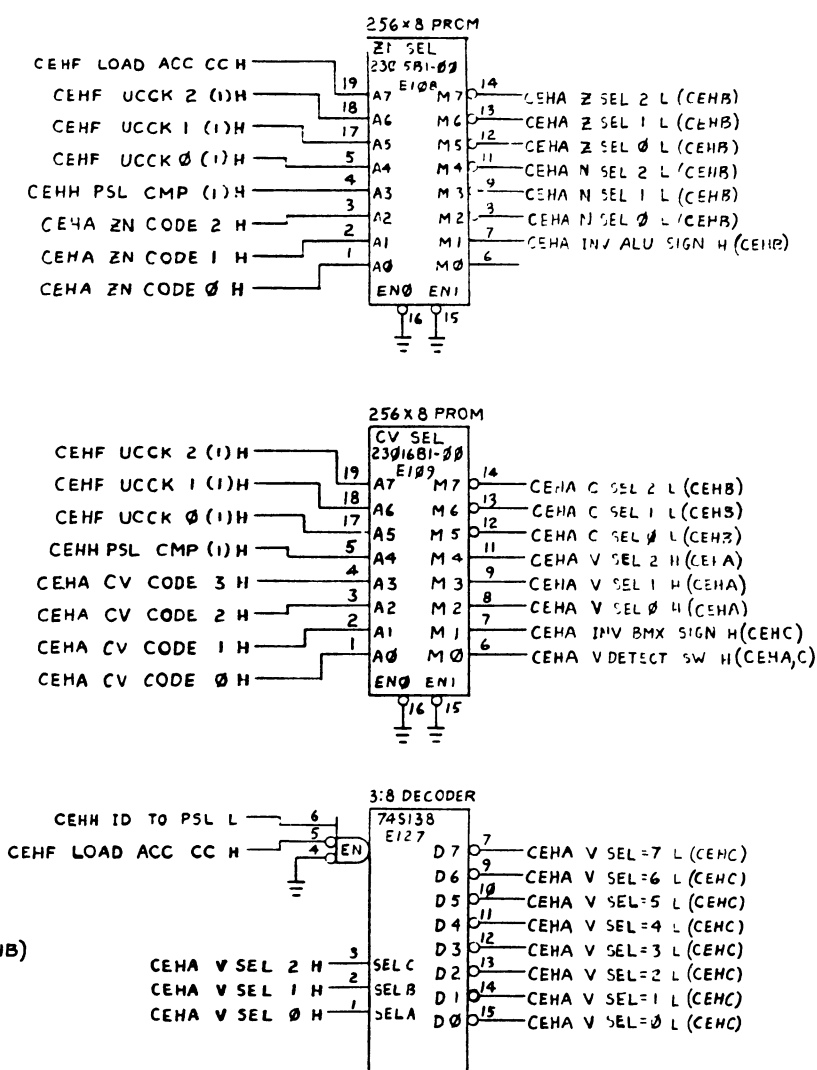
HIGH BITS BLOCK DIAGRAM



PSL REG HIGH BITS

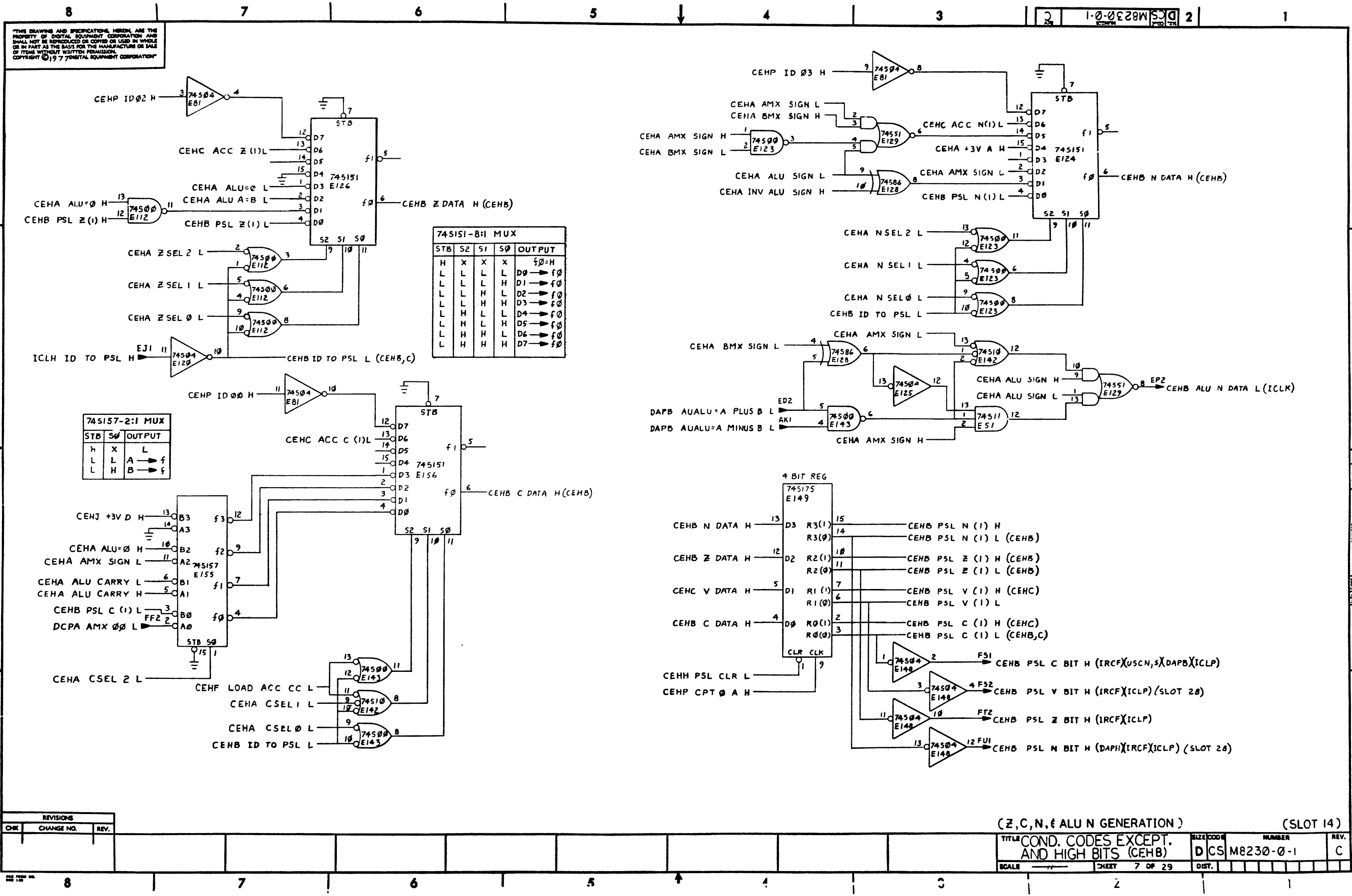
BIT POS	NAME	LOAD CONDITION			
		IACK FUNCTION	EACK FUNCTION	CHK CHMX FUNCTION (WITH ID TO PSL)	ID TO PSL
31	CMP	Ø	Ø	ID 31	ID 31
30	TP	Ø	Ø	ID 30	ID 30
29, 28	Ø	Ø	Ø	Ø	Ø
27	FPD	Ø	Ø	ID 27	ID 27
26	IS	IS	IS	ID 26	ID 26
25, 24	CUR MOD	Ø	Ø	IF ID 25, 24 > CUR MOD : CUR MOD ELSE ID 25, 24	ID(25, 24)
23, 22	PREV MOD	Ø	CUR MOD	CUR MOD	ID(23, 22)
21	Ø	Ø	Ø	Ø	Ø
20: 16	IPL	IPL ACT	IPL	ID (20: 16)	ID(20: 16)

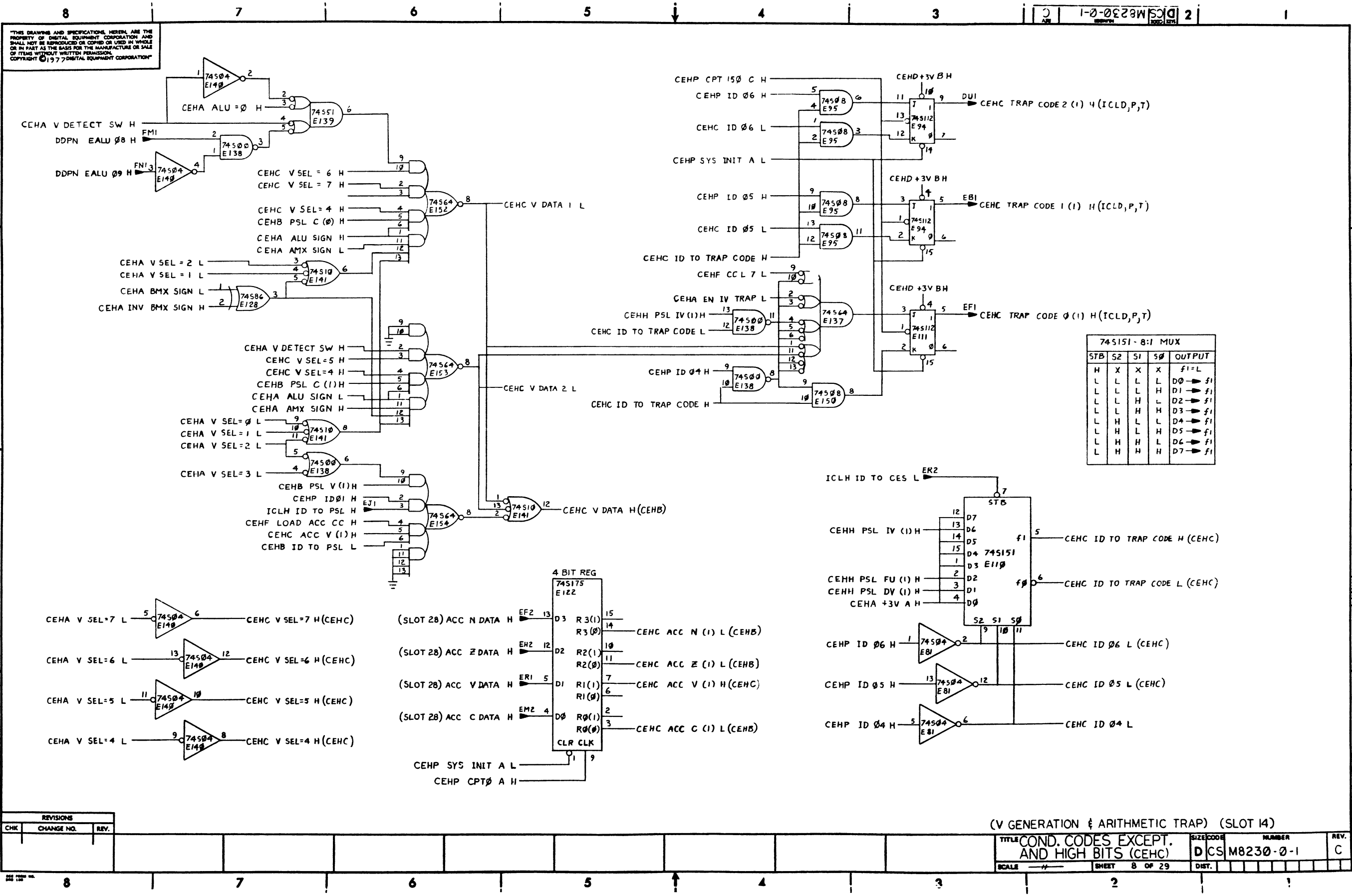
(REGISTER BLOCK DIAGRAM)



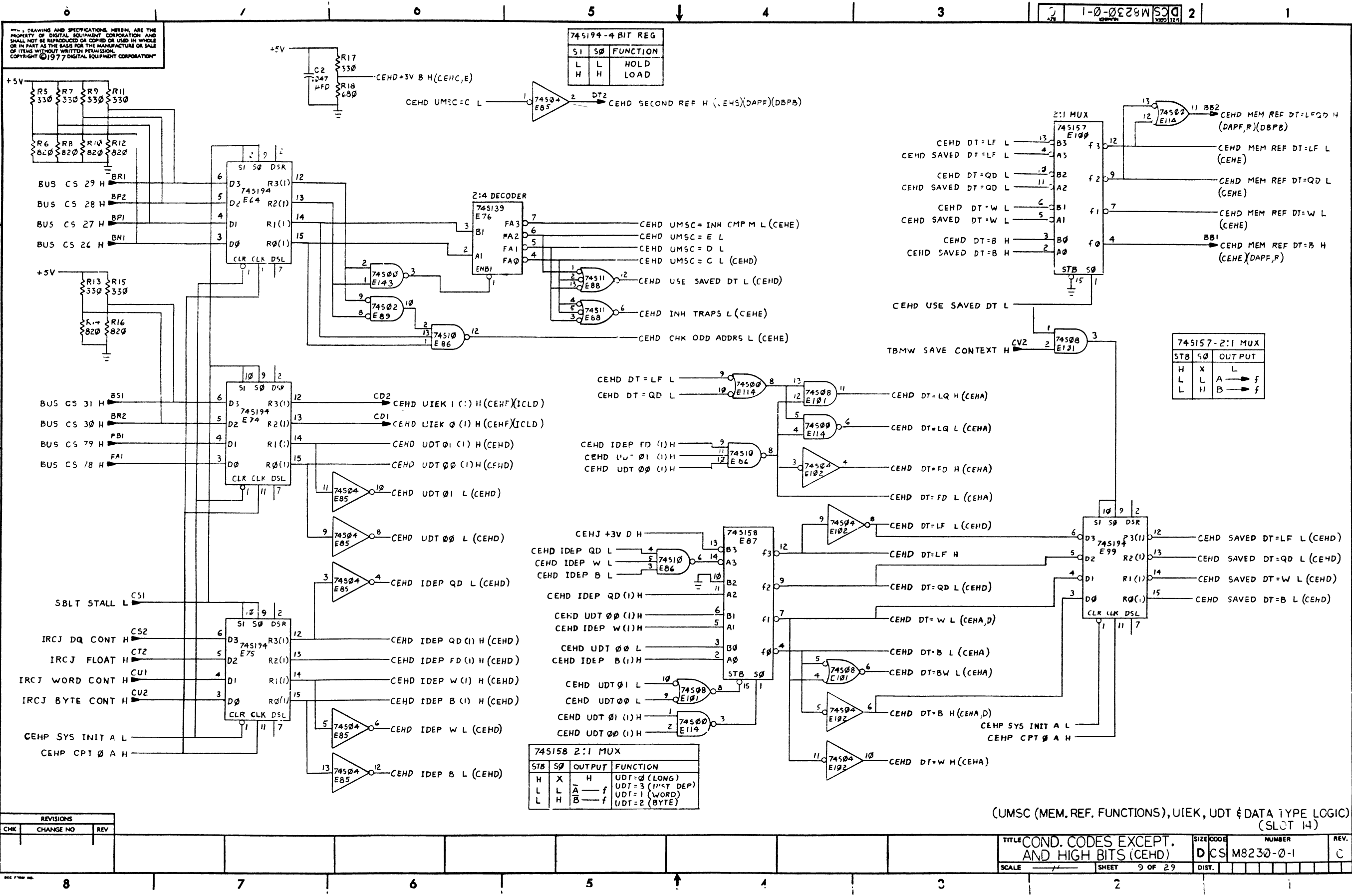
(CONDITION CODE DETECTION & SELECTION LOGIC)
(SLOT 14)

REVISIONS		
CHK	CHANGE NO.	REV.





REVISIONS		
CHK	CHANGE NO.	REV.



ALL DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

745194-4 BIT REG		
S1	S0	FUNCTION
L	L	HOLD
H	H	LOAD

745157-2:1 MUX		
STB	S0	OUTPUT
H	X	L
L	L	A → f
L	H	B → f

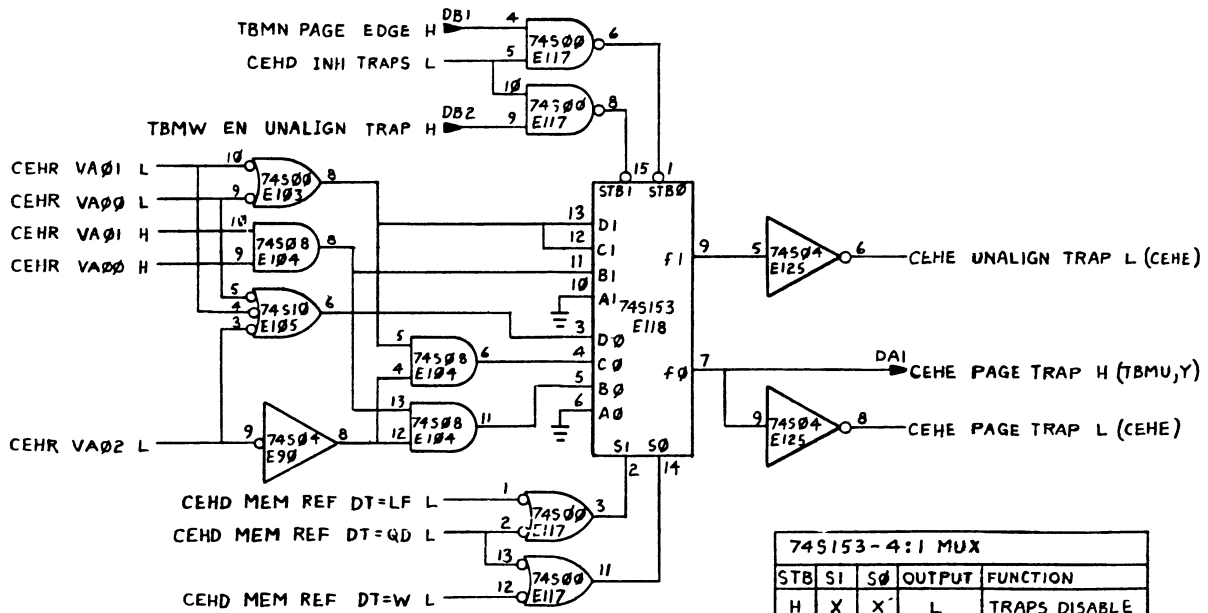
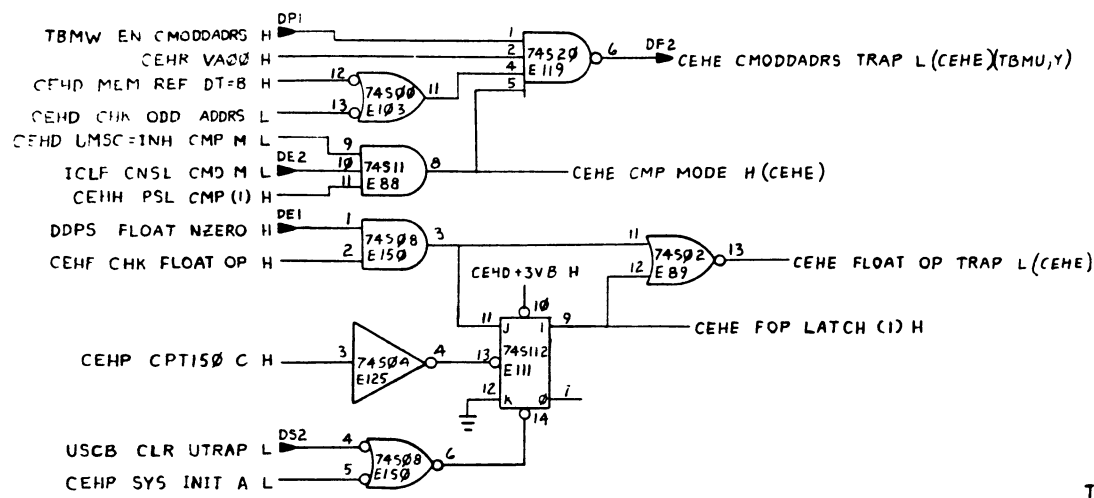
745158 2:1 MUX			
STB	S0	OUTPUT	FUNCTION
H	X	H	UDT=0 (LONG)
L	A	f	UDT=3 (INST DEP)
L	H	f	UDT=1 (WORD)
L	L	f	UDT=2 (BYTE)

(UMSC (MEM. REF. FUNCTIONS), UIEK, UDT & DATA TYPE LOGIC) (SLOT 14)

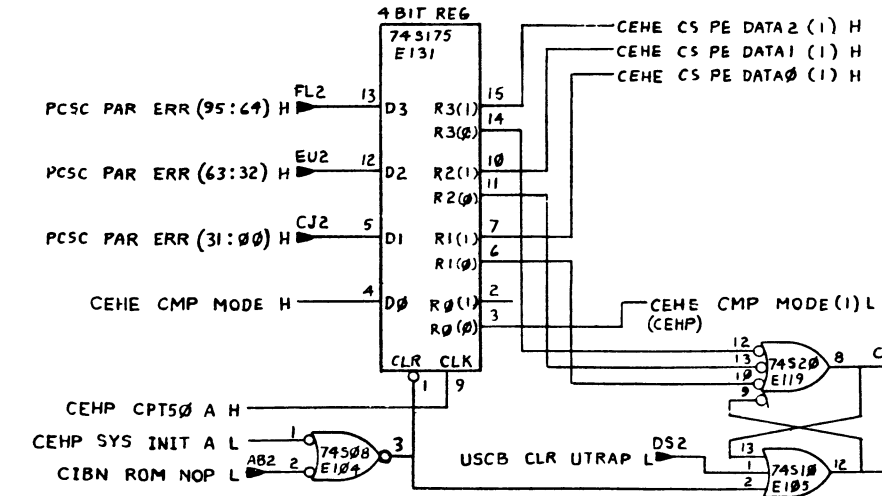
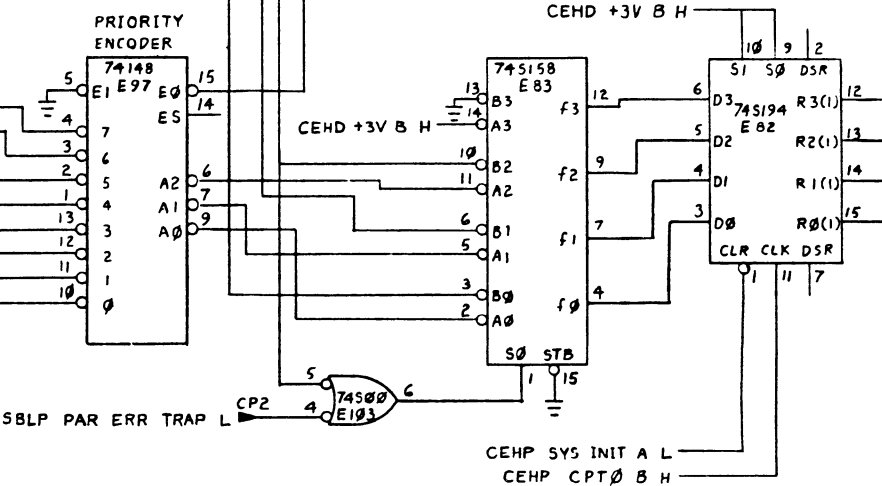
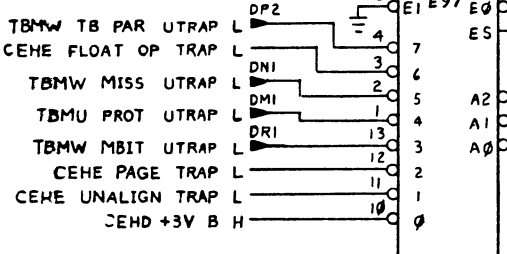
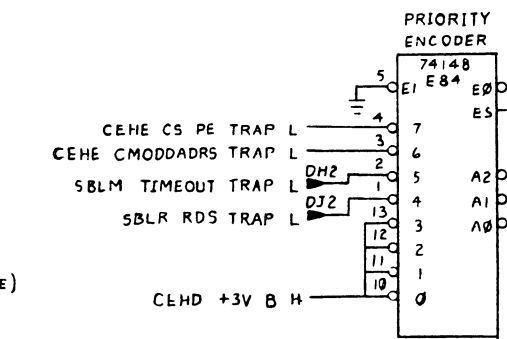
REVISIONS		
CHK	CHANGE NO	REV

TITLE		COND. CODES EXCEPT. AND HIGH BITS (CEHD)	SIZE	CODE	NUMBER	REV.
			D	CS	M8230-0-1	C
SCALE			SHEET		9 OF 29	DIST.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



STB	SI	S0	OUTPUT	FUNCTION
H	X	X	L	TRAPS DISABLE
L	L	L	A	BYTE
L	L	H	B	WORD
L	H	L	C	LONG, FLOAT
L	H	H	D	QUAD, DBL



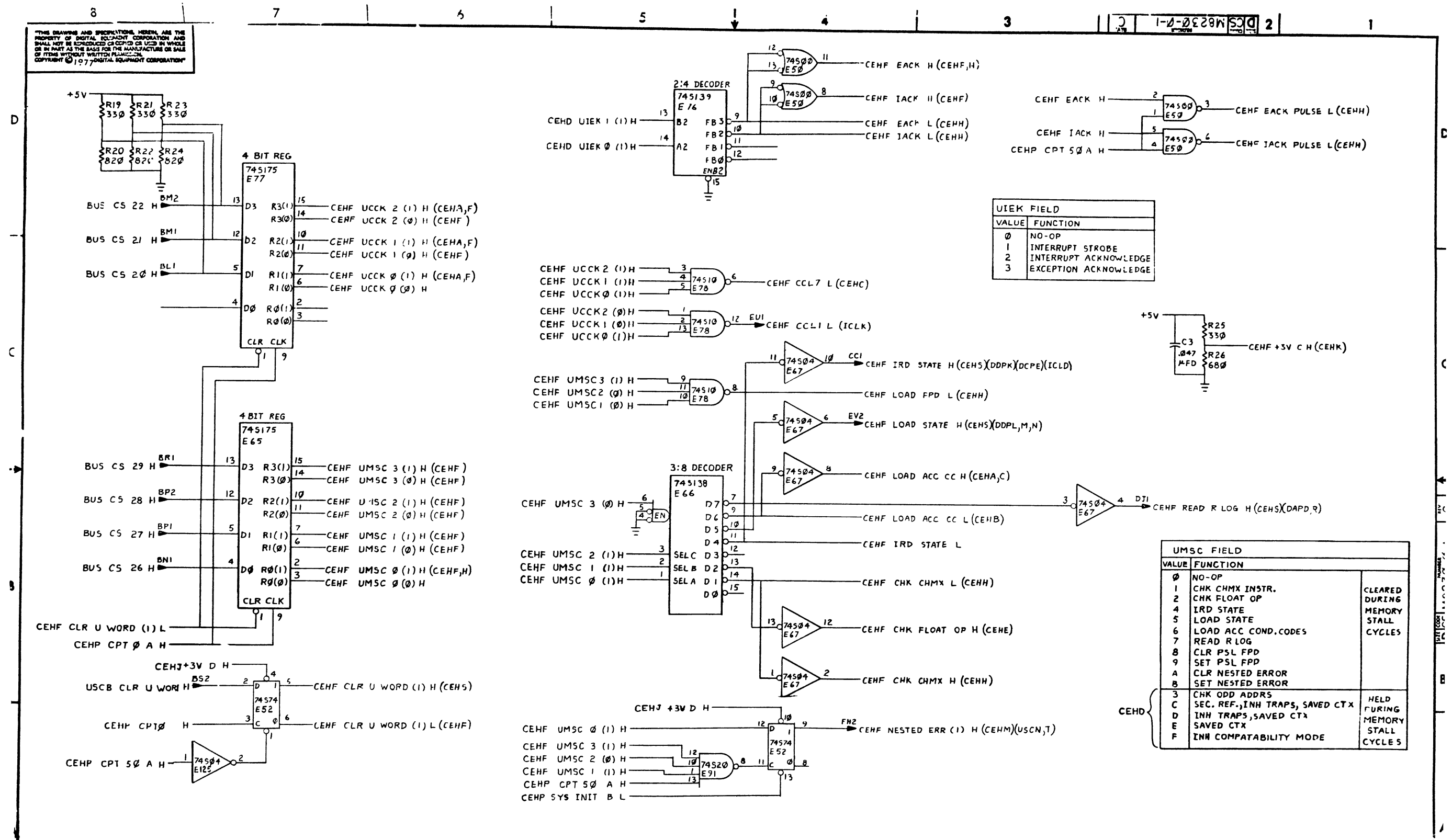
SI	S0	FUNCTION
L	L	HOLD
H	H	LOAD

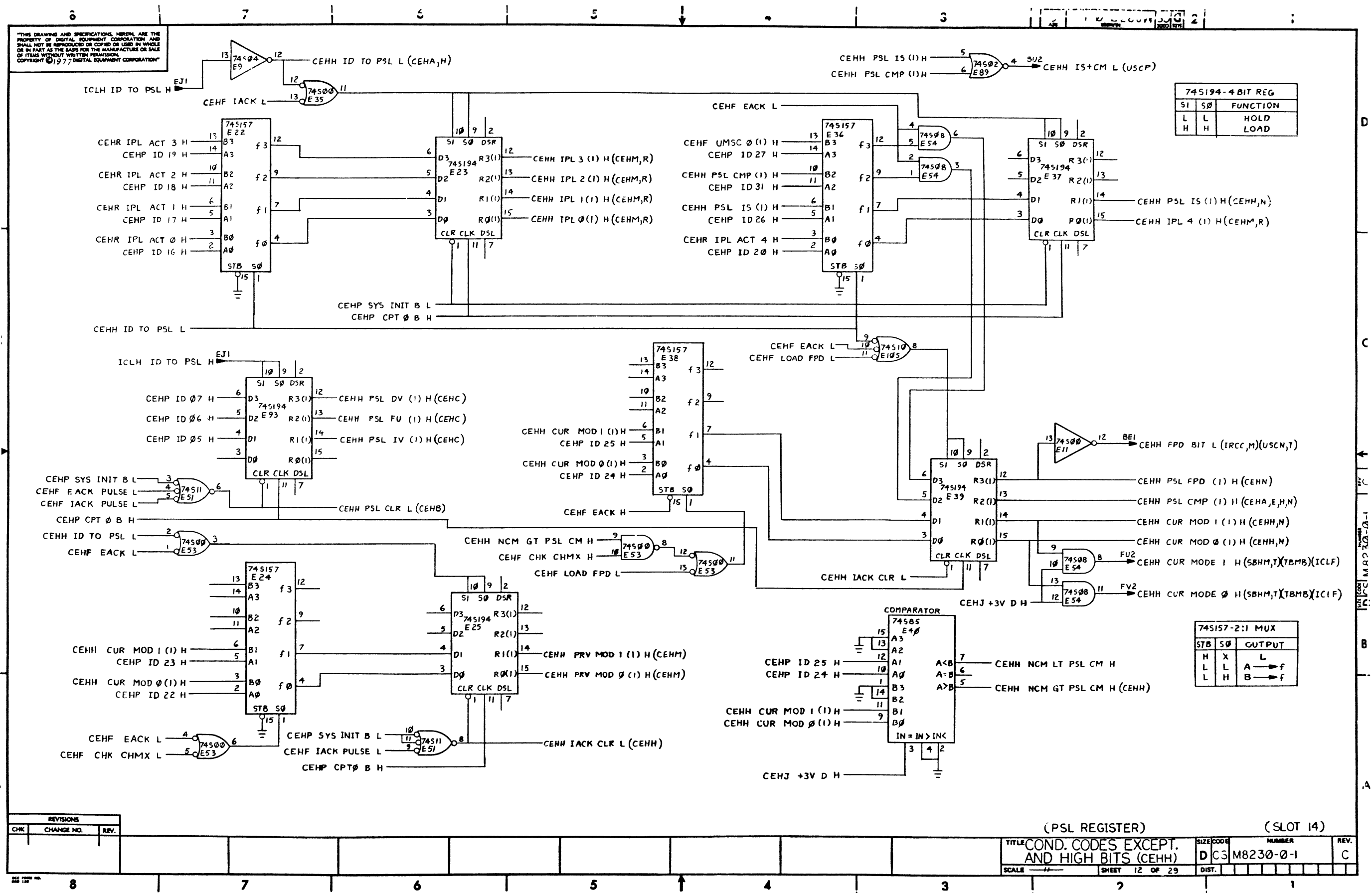
STB	S0	OUTPUT
H	X	H
L	L	A
L	H	B

CHK	CHANGE NO	REV

TITLE	COND. CODES EXCEPT AND HIGH BITS (CEHE)	SIZE CODE	NUMBER	REV.
		D CS	M8230-0-1	C
SCALE		SHEET	10 OF 29	DIST.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

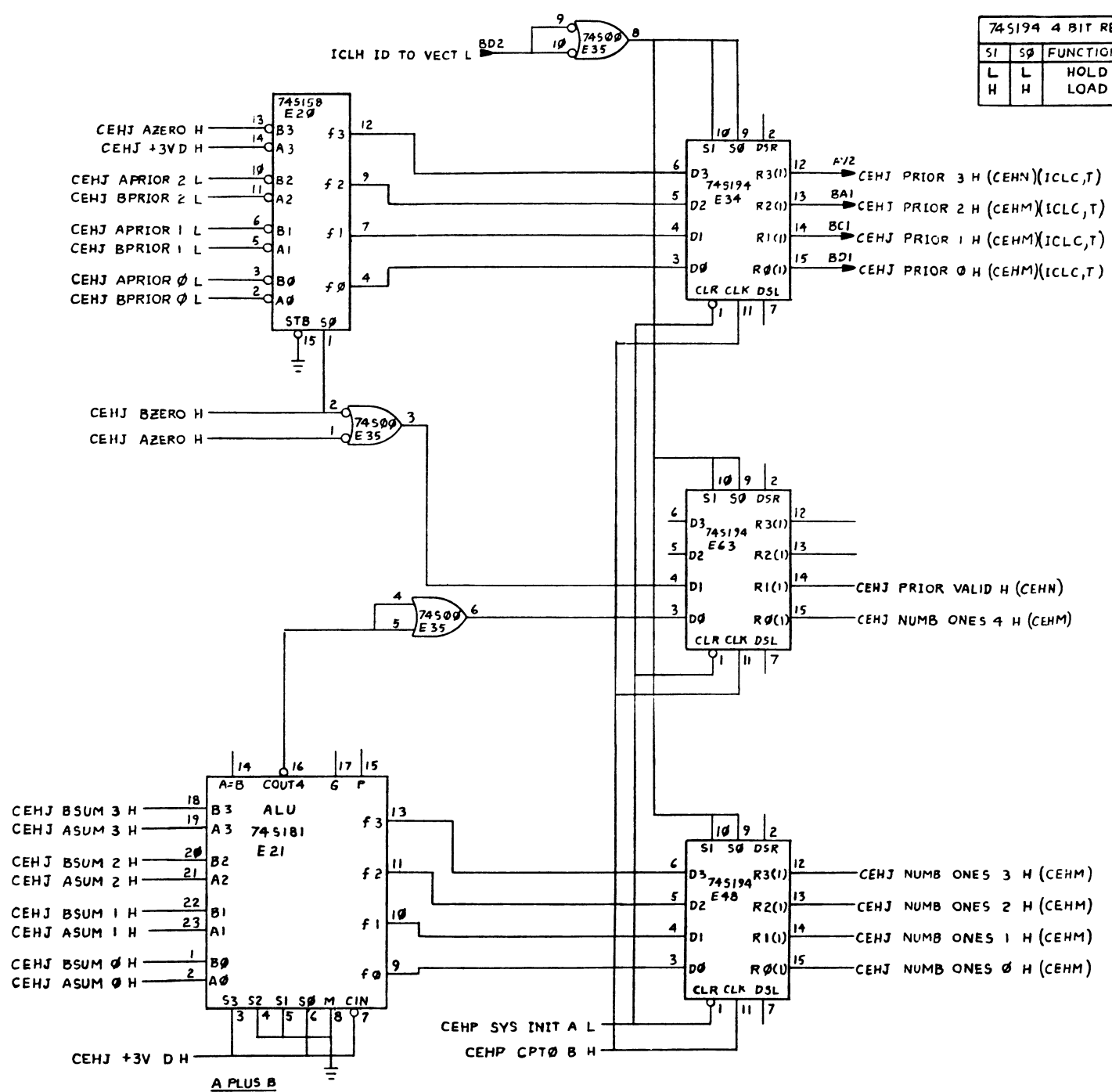
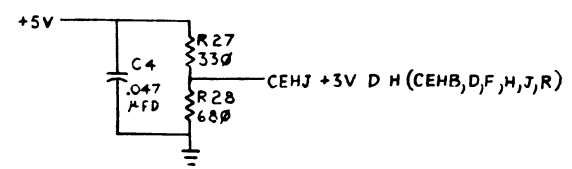
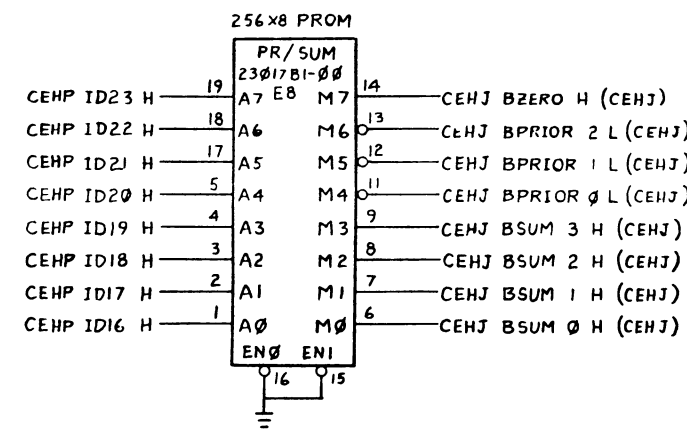
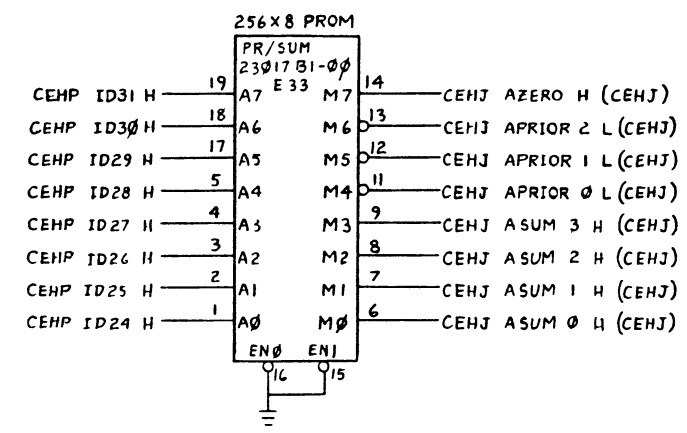




THE DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

745158-2:1 MUX		
STB	S0	OUTPUT
H	X	H
L	L	$\bar{A} \rightarrow f$
L	H	$\bar{B} \rightarrow f$

745194 4 BIT REG		
SI	S0	FUNCTION
L	L	HOLD
H	H	LOAD

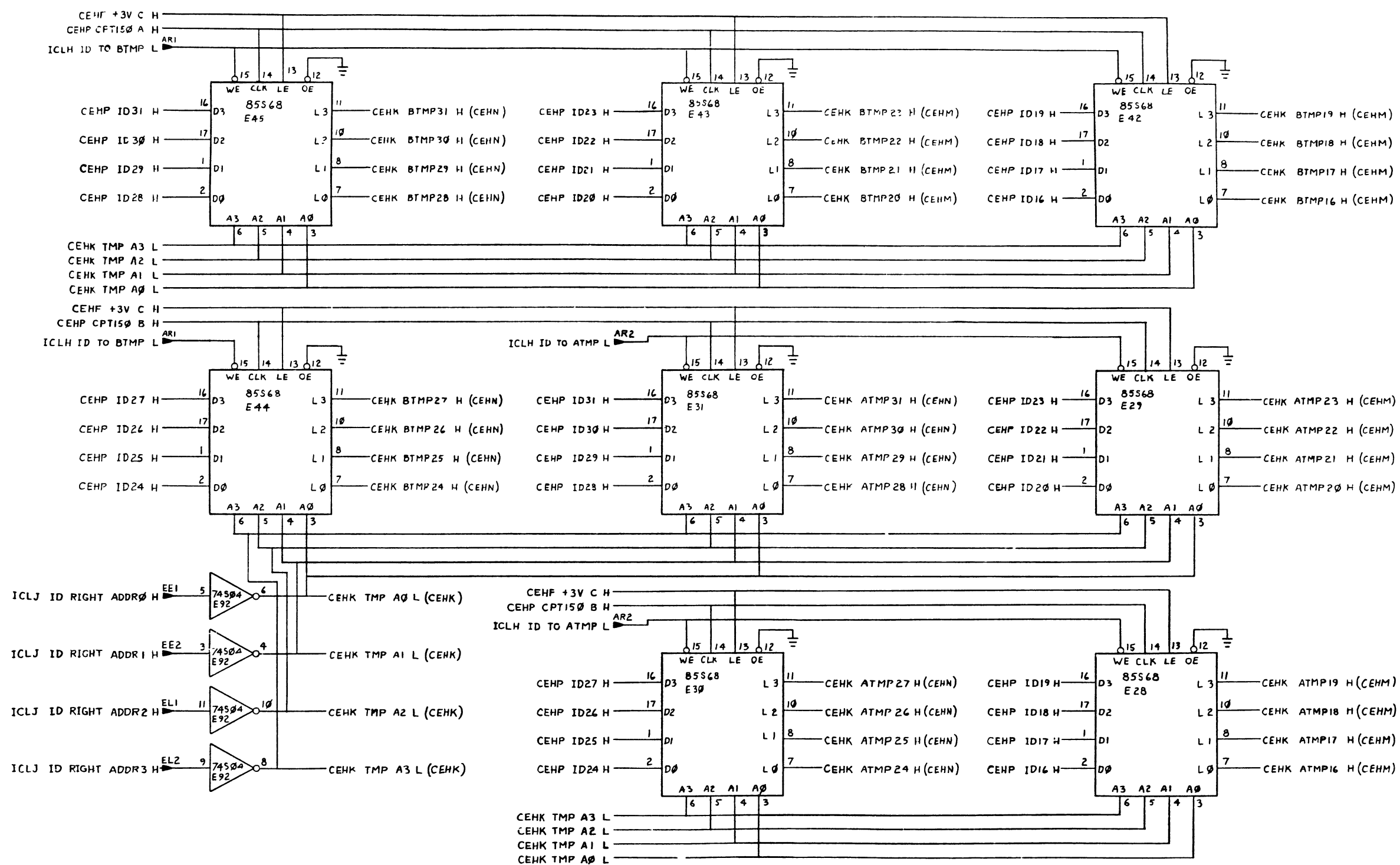


REVISIONS		
CHK	CHANGE NO.	REV.

(VECTOR REG (VECT))			(SLOT 14)		
TITLE COND. CODES EXCEPT AND HIGH BITS (CEHJ)			NUMBER DCS M8230-0-1		
SCALE			SHEET 13 OF 29		
			REV. C		

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

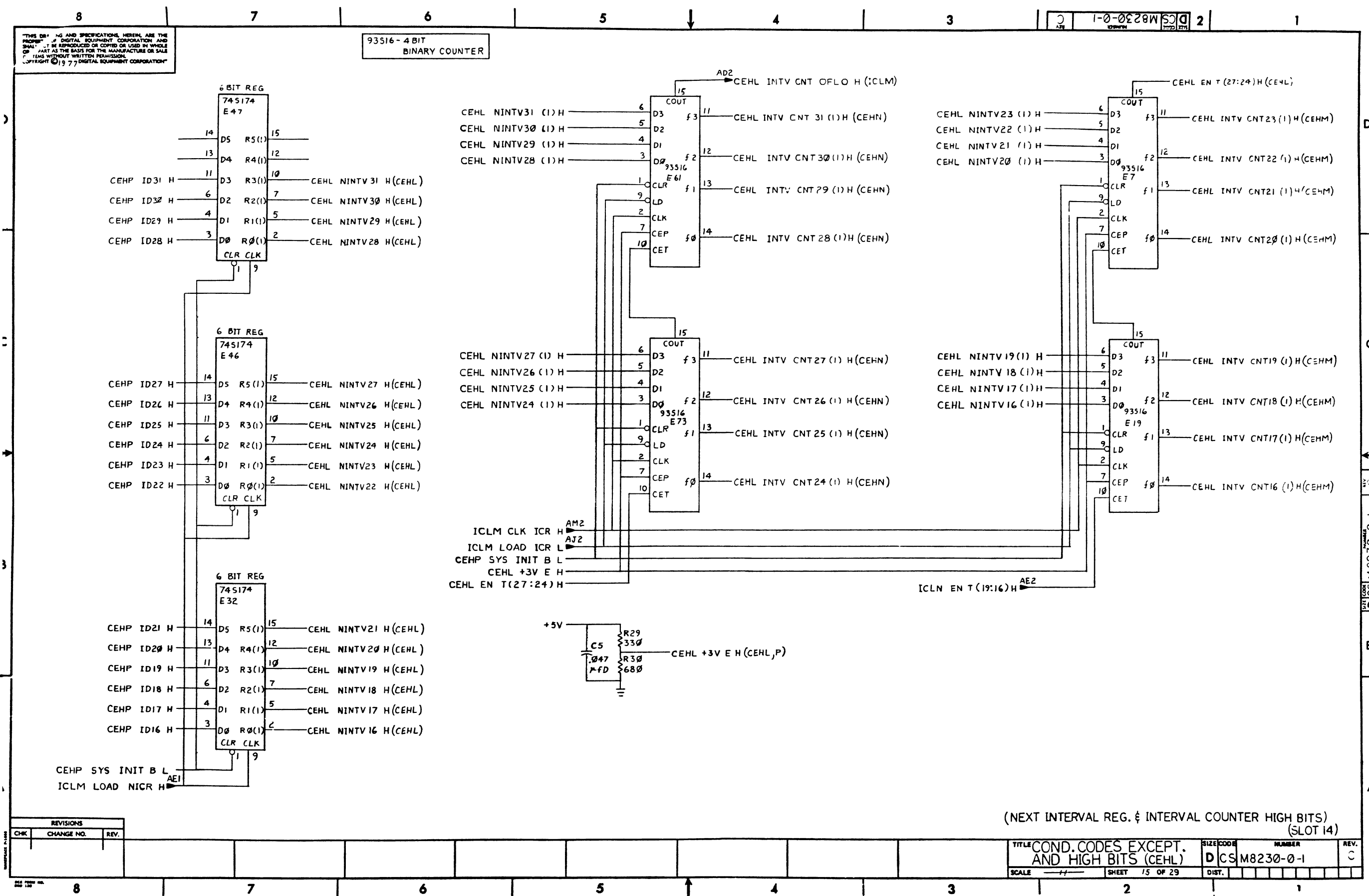
85568-16x4 EDGE
TRIGGERED REG



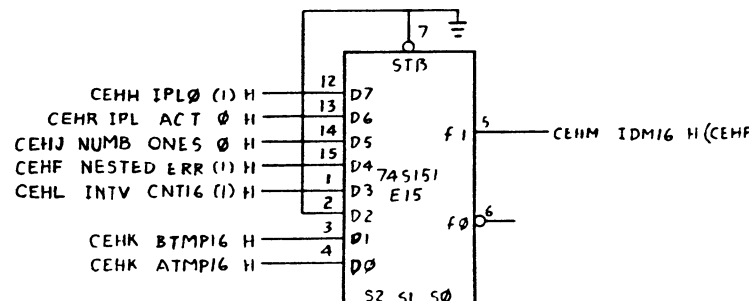
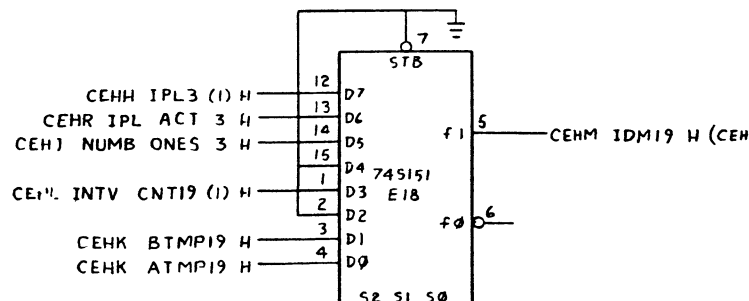
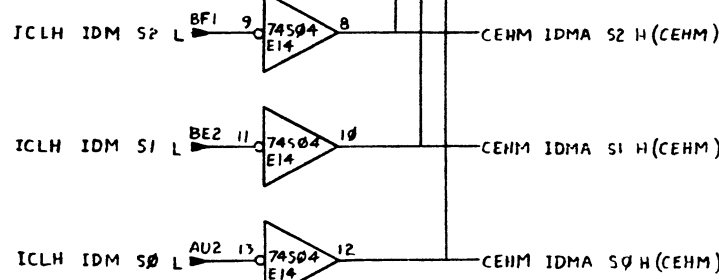
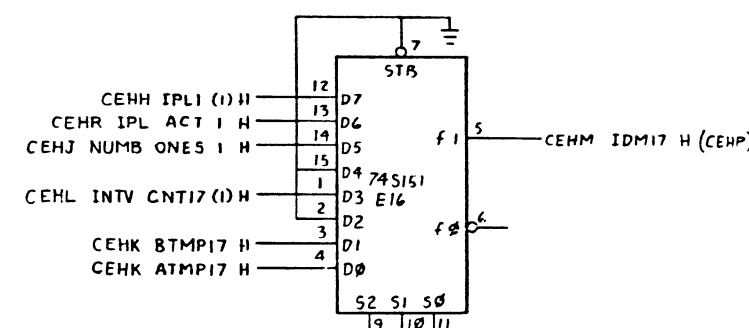
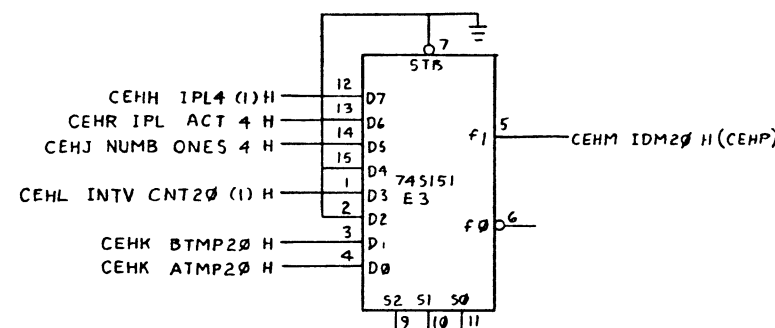
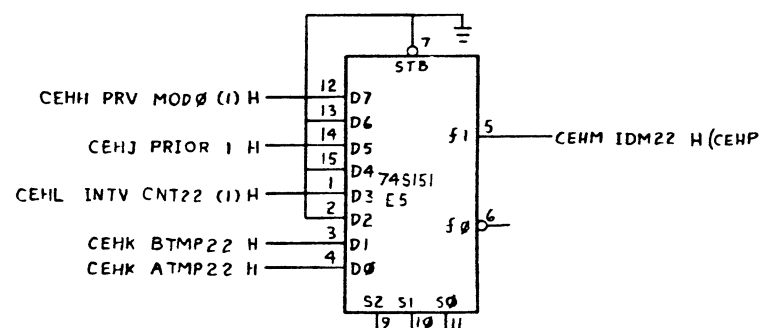
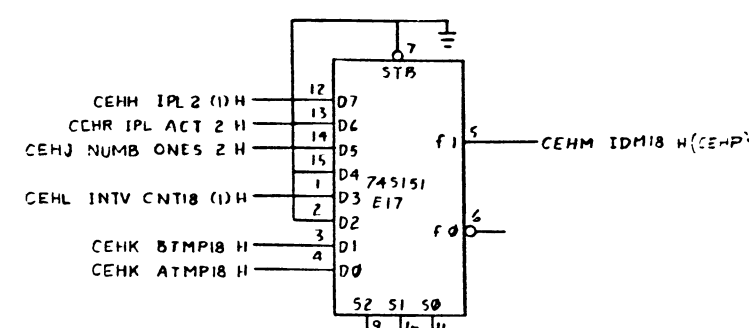
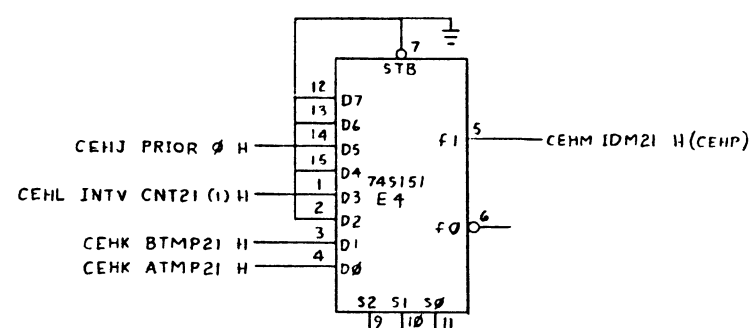
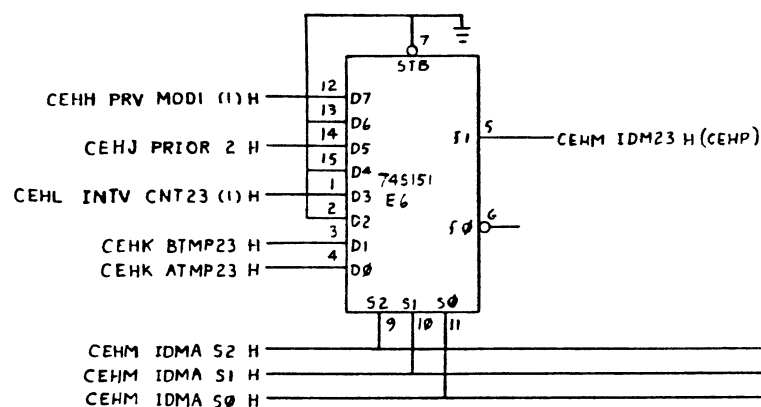
REVISIONS		
CHK	CHANGE NO.	REV

(ID REGISTERS (24 TO 3F) HIGH BITS) (SLOT 14)

TITLE		COND. CODES EXCEPT. AND HIGH BITS (CEHK)		SIZE	CODE	NUMBER		REV
SCALE		SHEET		D	CS	M8230-0-1		C
1/1		14 OF 29		DIST.				



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

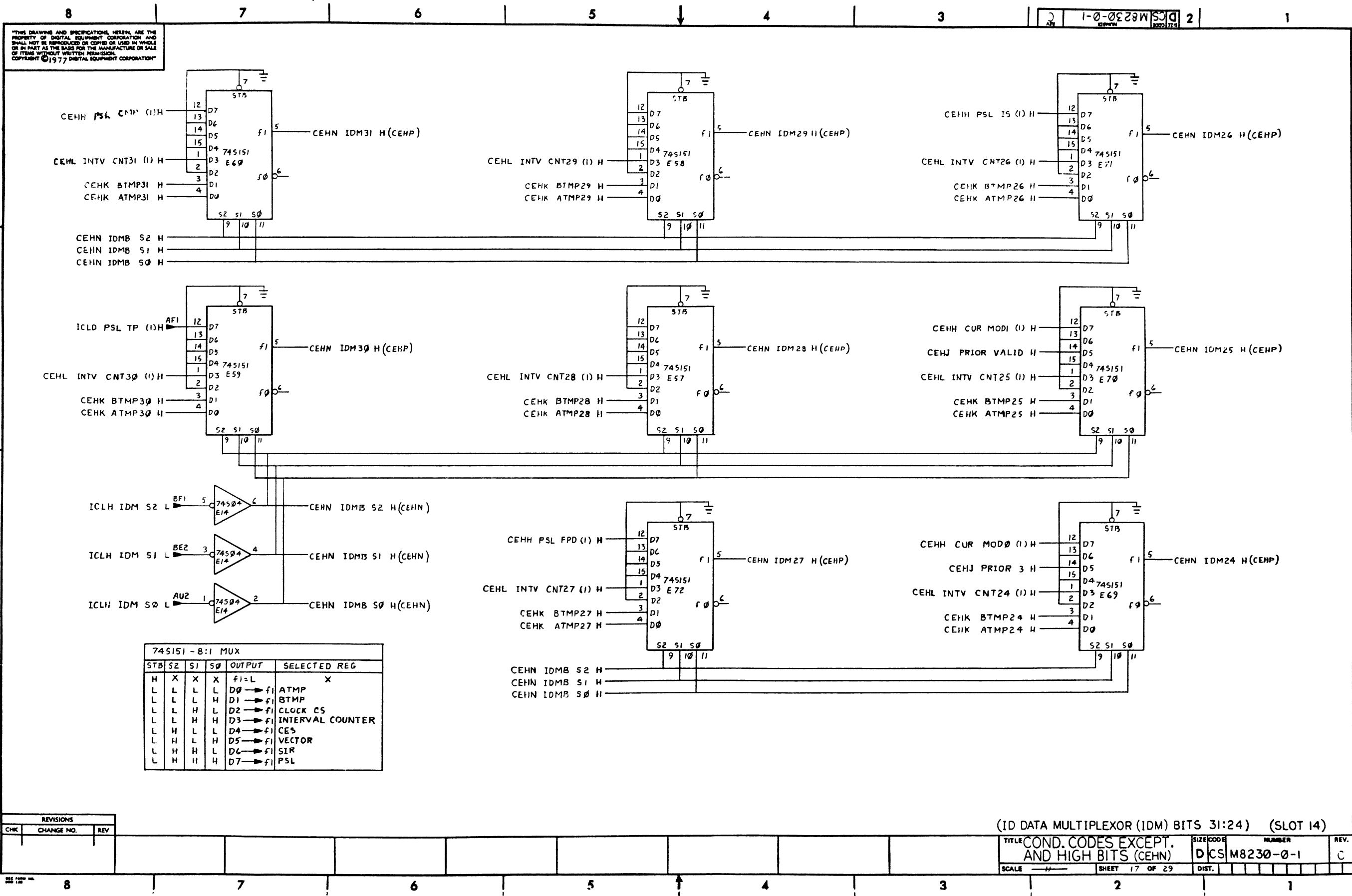


STB	S2	S1	S0	OUTPUT	SELECTED REG
H	X	X	X	f1	X
L	L	L	L	D0	ATMP
L	L	L	H	D1	BTMP
L	L	H	L	D2	CLOCK CS
L	L	H	H	D3	INTERVAL COUNTER
L	H	L	L	D4	CE5
L	H	L	H	D5	VECTOR
L	H	H	L	D6	SIR
L	H	H	H	D7	PSL

REV.	CHANGE NO.	REV.

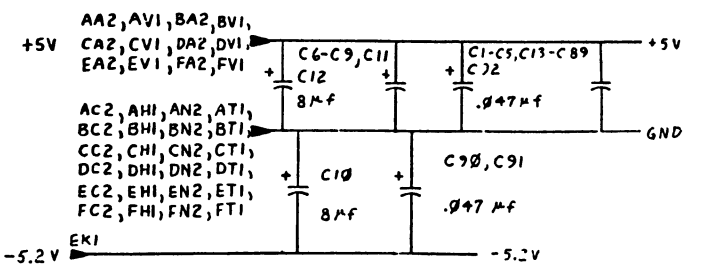
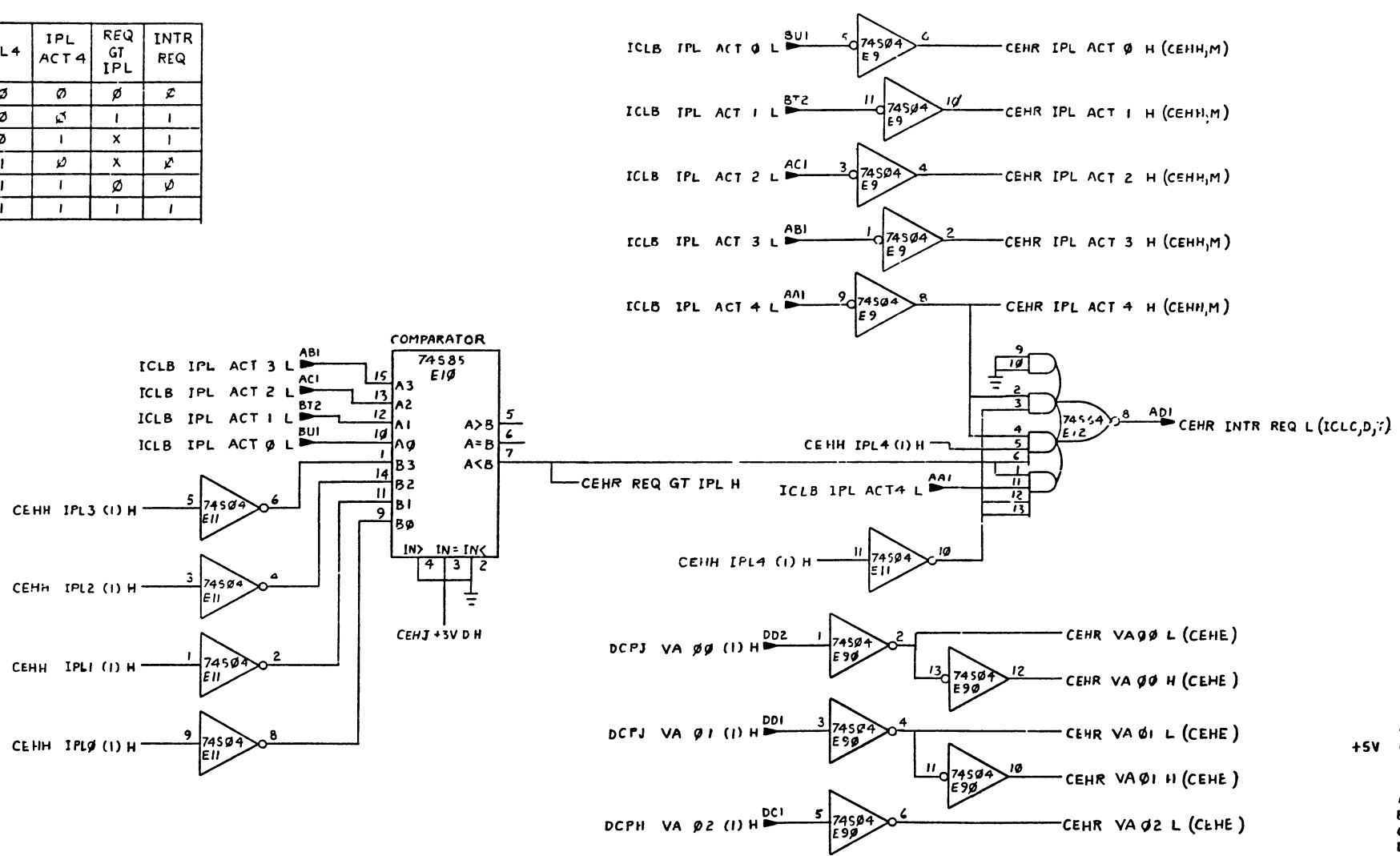
(ID DATA MULTIPLEXOR (IDM) BITS 23:16) (SLOT 14)

TITLE	COND. CODES EXCEPT. AND HIGH BITS (CEHM)	SIZE CODE	NUMBER	REV.
		D CS	M8230-0-1	C
SCALE		SHEET	16 OF 29	DIST.



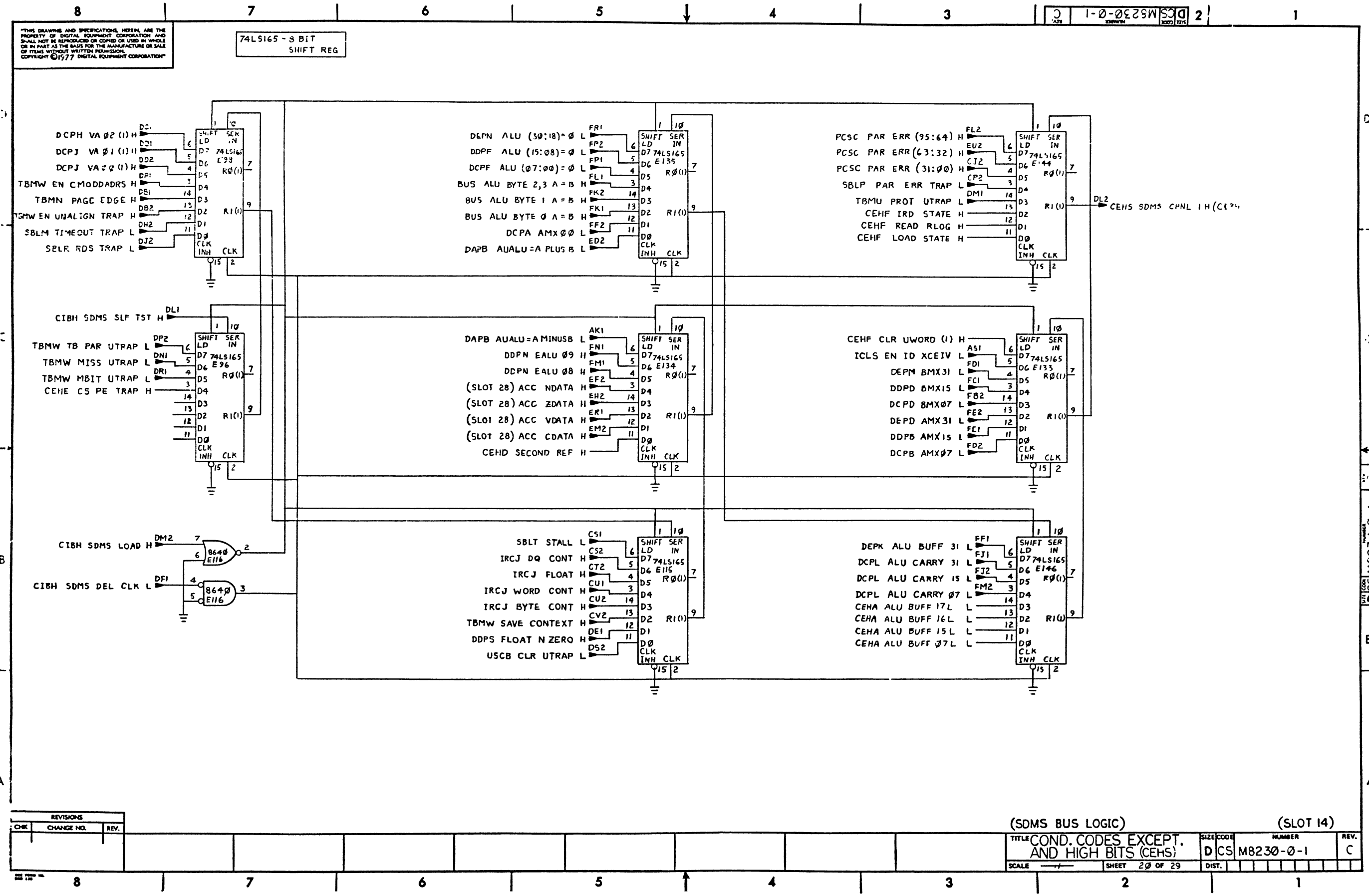
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

IPL 4	IPL ACT 4	REQ GT IPL	INTR REQ
0	0	0	0
0	1	1	1
0	1	X	1
1	0	X	0
1	1	0	0
1	1	1	1



REV.	CHANGE NO.	REV.
1	1	1

(INTERRUPT REQUEST LOGIC)		(SLOT 14)	
TITLE	COND. CODES EXCEPT AND HIGH BITS (CEHR)	SIZE CODE	NUMBER
SCALE	SHEET 19 OF 29	DIST.	REV.



8

7

6

5

4

3

2

1

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

Z & N SEL PROM (23015B1-000)

Z SEL
(2:0)L

N SEL
(2:0)L

INV ALU SIGN H

X

PROM ADDR		PROM DATA								
		M7	M6	M5	M4	M3	M2	M1	M0	
00	CCL0	H	H	H	H	H	H	L	L	CM
01										
02										
03										
04										
05										
06										
07										
08		H	H	H	H	H	H	L	L	CM
09										
0A										
0B										
0C										
0D										
0E										
0F										
10	CCL1	H	H	H	H	H	H	L	L	CM
11										
12										
13										
14										
15										
16										
17										
18		H	H	H	H	H	H	L	L	CM
19										
1A										
1B										
1C										
1D										
1E										
1F										

Z SEL
(2:0)L

N SEL
(2:0)L

INV ALU SIGN H

X

PROM ADDR		PROM DATA								
		M7	M6	M5	M4	M3	M2	M1	M0	
20	CCL2	H	H	H	H	H	H	L	L	CM
21										
22										
23										
24										
25										
26										
27										
28		H	H	H	H	H	H	L	L	CM X
29										
2A										
2B										
2C										
2D										
2E										
2F										
30	CCL3	H	H	L	H	L	H	L	L	CM
31										
32										
33										
34										
35										
36										
37										
38		H	H	L	H	L	H	L	L	CM
39										
3A										
3B										
3C										
3D										
3E										
3F										

Z SEL
(2:0)L

N SEL
(2:0)L

INV ALU SIGN H

X

PROM ADDR		PROM DATA								
		M7	M6	M5	M4	M3	M2	M1	M0	
40	CCL4	H	H	H	H	H	H	L	L	CM X
41										
42										
43										
44										
45										
46										
47										
48		H	L	L	H	H	L	L	L	CM
49										
4A										
4B										
4C										
4D										
4E										
4F										
50	CCL5	H	L	L	H	H	L	L	L	CM
51										
52										
53										
54										
55										
56										
57										
58		H	L	L	H	H	L	L	L	CM
59										
5A										
5B										
5C										
5D										
5E										
5F										

Z SEL
(2:0)L

N SEL
(2:0)L

INV ALU SIGN L

X

PROM ADDR		PROM DATA								
		M7	M6	M5	M4	M3	M2	M1	M0	
60	CCL6	H	L	L	H	H	L	L	L	CM
61										
62										
63										
64										
65										
66										
67										
68		H	H	H	H	H	H	L	L	CM
69										
6A										
6B										
6C										
6D										
6E										
6F										
70	CCL7	H	H	H	H	H	H	L	L	CM ZN CODE=0
71		H	L	L	H	H	L	L	L	ZN CODE=1
72		H	L	H	L	H	L	L	L	ZN CODE=2
73		H	L	L	H	H	L	L	L	ZN CODE=3
74		H	H	H	H	H	L	L	L	ZN CODE=4
75		H	L	L	L	H	H	L	L	ZN CODE=5
76		H	H	H	H	H	H	L	L	ZN CODE=6
77		H	H	H	H	H	H	L	L	ZN CODE=7
78		H	H	H	H	H	H	L	L	CM ZN CODE=8
79		H	L	L	H	H	L	L	L	ZN CODE=1
7A		H	L	H	H	H	L	H	L	ZN CODE=2
7B		H	L	L	H	H	H	L	L	ZN CODE=3
7C		L	H	H	H	H	L	L	L	ZN CODE=4
7D		H	H	H	H	H	H	L	L	ZN CODE=5
7E		H	H	H	H	H	H	L	L	ZN CODE=6
7F		H	H	H	H	H	H	L	L	ZN CODE=7

80 TO FF

LOAD ACC C.C

L

L

H

L

L

H

L

L

REVISIONS

CHK	CHANGE NO.	REV

(ZN SEL PROM TRUTH TABLE)

TITLE	COND. CODES EXCEPT. AND HIGH BITS (CEHT)	SIZE CODE	NUMBER	REV.
		D CS	M8230-0-1	C

SCALE

SHEET 21 OF 29

DIST.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

CONDITION CODE INSTR DEPENDENT PROM - CM (2303781-00)

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
00	HALT	L	L	L	L	L	L	L	H
01	NOP	L	L	L	L	L	L	L	H
02	REI	L	L	L	L	L	L	L	H
03	BPT	L	L	L	L	L	L	L	H
04	RET	L	L	L	L	L	L	L	H
05	R5B	L	L	L	L	L	L	L	H
06	LDPCTX	L	L	L	L	L	L	L	H
07	SVPCTX	L	L	L	L	L	L	L	H
08	—	L	L	L	L	L	L	L	H
09	—	L	L	L	L	L	L	L	H
0A	INDEX	L	H	L	L	L	L	H	H
0B	CRC	L	L	H	L	L	L	L	H
0C	PROBER	L	—	H	L	L	L	L	H
0D	PROBEW	L	L	H	L	L	L	L	H
0E	INSQUE	L	H	L	H	L	H	L	H
0F	REMQUE	L	H	L	H	L	H	L	H
10	B5B0	L	L	L	L	L	L	L	H
11	BRB	L	L	L	L	L	L	L	H
12	BNEQ	L	L	L	L	L	L	L	H
13	BEQL	L	L	L	L	L	L	L	H
14	BGTR	L	L	L	L	L	L	L	H
15	BLEQ	L	L	L	L	L	L	L	H
16	JSB	L	L	L	L	L	L	L	H
17	JMP	L	L	L	L	L	L	L	H
18	BGEQ	L	L	L	L	L	L	L	H
19	BLSS	L	L	L	L	L	L	L	H
1A	BGTRU	L	L	L	L	L	L	L	H
1B	BLEQU	L	L	L	L	L	L	L	H
1C	BVC	L	L	L	L	L	L	L	H
1D	BVS	L	L	L	L	L	L	L	H
1E	BCC	L	L	L	L	L	L	L	H
1F	BCS	L	L	L	L	L	L	L	H

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
20	ADDP4	L	L	L	H	L	H	L	H
21	ADDP6	L	L	L	H	L	H	L	H
22	SUBP4	L	L	L	H	L	H	L	H
23	SUBP6	L	L	L	H	L	H	L	H
24	CVTPN	L	L	L	L	L	L	L	H
25	MULP	L	L	L	H	L	H	L	H
26	CVTNP	L	L	L	L	L	L	L	H
27	DIVP	L	L	L	H	L	H	L	H
28	MOVCS	H	L	H	L	L	L	H	H
29	CMPC3	L	H	L	H	L	H	L	H
2A	SCANC	H	L	H	L	L	L	H	H
2B	SPANC	H	L	H	L	L	L	H	H
2C	MOVCS	L	H	L	H	L	H	L	H
2D	CMPCS	L	H	L	H	L	H	L	H
2E	MOVTC	L	H	L	H	L	H	L	H
2F	MOVTC	L	H	L	H	L	H	L	H
30	B5B0	L	L	L	L	L	L	L	H
31	BRW	L	L	L	L	L	L	L	H
32	CVTWL	L	L	H	L	L	L	H	H
33	CVTWB	L	L	L	H	L	H	H	L
34	MOVCP	L	L	H	L	L	L	L	H
35	CMPP3	L	L	L	L	L	L	L	H
36	CVTPL	L	L	L	L	L	L	L	H
37	CMPP4	L	L	L	L	L	L	L	H
38	EDITPC	L	L	L	L	L	L	L	H
39	MATCHC	L	L	L	L	L	L	L	H
3A	LOCC	H	L	H	L	L	L	H	H
3B	SKPC	H	L	H	L	L	L	H	H
3C	MOVZWL	L	L	H	L	L	L	L	H
3D	ACBW	L	L	H	H	H	L	L	L
3E	MOVAV	L	L	H	L	L	L	L	H
3F	PUSHAW	L	L	H	L	L	L	L	H

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
40	ADDF2	L	L	H	H	L	L	L	H
41	ADDF3	L	L	H	H	L	L	L	H
42	SUBF2	L	L	H	H	L	L	L	H
43	SUBF3	L	L	H	H	L	L	L	H
44	MULF2	L	L	H	H	L	L	L	H
45	MULF3	L	L	H	H	L	L	L	H
46	DIVF2	L	L	H	H	L	L	L	H
47	DIVF3	L	L	H	H	L	L	L	H
48	CVTFB	L	L	L	H	L	H	H	L
49	CVTFW	L	L	L	H	L	H	H	L
4A	CVTFL	L	L	L	H	L	H	H	L
4B	CVTRFL	L	L	H	H	H	L	H	L
4C	CVTBF	L	L	H	L	L	L	H	H
4D	CVTWF	L	L	H	L	L	L	H	H
4E	CVTLF	L	L	H	L	L	L	H	H
4F	ACBF	L	L	H	H	L	L	H	H
50	MOVF	L	L	H	L	L	L	L	H
51	CMPP	L	L	H	L	L	L	H	H
52	MNEGF	L	L	H	L	L	L	H	H
53	TSTF	L	L	H	L	L	L	H	H
54	EMODF	L	L	H	H	L	L	L	H
55	POLYF	L	L	H	H	L	L	L	H
56	CVTFD	L	L	H	L	L	L	H	H
57	—	L	L	L	L	L	L	L	H
58	ADAWI	L	L	H	L	L	H	L	L
59	—	L	L	L	L	L	L	L	H
5A	—	L	L	L	L	L	L	L	H
5B	—	L	L	L	L	L	L	L	H
5C	—	L	L	L	L	L	L	L	H
5D	—	L	L	L	L	L	L	L	H
5E	—	L	L	L	L	L	L	L	H
5F	—	L	L	L	L	L	L	L	H

PROM ADDR	OP CODE	PROM DATA							
		M7	M6	M5	M4	M3	M2	M1	M0
60	ADD02	L	L	H	H	L	L	L	H
61	ADD03	L	L	H	H	L	L	L	H
62	SUB02	L	L	H	H	L	L	L	H
63	SUB03	L	L	H	H	L	L	L	H
64	MULD2	L	L	H	H	L	L	L	H
65	MULD3	L	L	H	H	L	L	L	H
66	DIV02	H	L	L	H	L	H	L	H
67	DIV03	H	L	L	H	L	H	L	H
68	CVTDB	L	L	L	H	L	H	H	L
69	CVTDW	L	L	L	H	L	H	H	L
6A	CVTDL	L	L	L	H	L	H	H	L
6B	CVTRDL	L	L	H	H	H	L	H	L
6C	CVTBD	L	L	H	L	L	L	H	H
6D	CVTWD	L	L	H	L	L	L	H	H
6E	CVTLD	L	L	H	L	L	L	H	H
6F	ACBD	L	L	H	H	L	L	H	H
70	MOV0	L	L	H	L	L	L	L	H
71	CMPO	L	L	H	L	L	L	H	H
72	MNEGD	L	L	H	L	L	L	H	H
73	TST0	L	L	H	L	L	L	H	H
74	EMOD0	L	L	H	H	L	L	L	H
75	POLY0	L	L	H	H	L	L	L	H
76	CVTDF	L	L	H	H	L	L	L	H
77	—	L	L	L	L	L	L	L	H
78	ASHL	L	L	L	H	L	H	H	L
79	ASHQ	L	L	L	H	L	H	H	L
7A	EMUL	L	L	H	L	L	L	H	H
7B	EDIV	L	L	L	L	L	L	L	H
7C	CLRQ	L	L	H	L	L	L	L	H
7D	MOVQ	L	L	H	L	L	L	L	H
7E	MOVAG	L	L	H	L	L	L	L	H
7F	PUSHAQ	L	L	H	L	L	L	L	H

REVISIONS		
CHK	CHANGE NO.	REV.

(CCID-CM PROM TRUTH TABLE)

TITLE		COND. CODES EXCEPT. AND HIGH BITS (CEHW)	SIZE CODE	NUMBER	REV.
SCALE		SHEET 24 OF 29	D	CS M8230-0-1	C

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

CONDITION CODE INSTR. DEPENDENT PROM - CMP MODE (23013B1-000)

PROM ADDR	OP CODE	PROM DATA								
		M7	M6	M5	M4	M3	M2	M1	M0	
00	X	L	L	L	L	L	L	L	H	
01	MOV	L	L	H	L	L	L	L	H	
02	CMP	L	H	L	H	L	H	L	H	
03	BIT	L	L	H	L	L	L	L	H	
04	BIC	L	L	H	L	L	L	L	H	
05	BIS	L	L	H	L	L	L	L	H	
06	ADD	L	L	H	L	L	H	L	H	
07	MUL	L	L	H	H	L	H	H	H	
08	X	L	L	L	L	L	L	L	H	
09	MOV	L	L	H	L	L	L	L	H	
0A	CMP	L	H	L	H	L	H	L	H	
0B	BIT	L	L	H	L	L	L	L	H	
0C	BIC	L	L	H	L	L	L	L	H	
0D	BIS	L	L	H	L	L	L	L	H	
0E	ADD	L	L	H	L	L	H	L	H	
0F	DIV	H	L	L	H	L	L	H	H	
10	X	L	L	L	L	L	L	L	H	
11	MOV	L	L	H	L	L	L	L	H	
12	CMP	L	H	L	H	L	H	L	H	
13	BIT	L	L	H	L	L	L	L	H	
14	BIC	L	L	H	L	L	L	L	H	
15	BIS	L	L	H	L	L	L	L	H	
16	ADD	L	L	H	L	L	H	L	H	
17	ASH	L	L	H	H	H	H	L	H	
18	X	L	L	L	L	L	L	L	H	
19	MOV	L	L	H	L	L	L	L	H	
1A	CMP	L	H	L	H	L	H	L	H	
1B	BIT	L	L	H	L	L	L	L	H	
1C	BIC	L	L	H	L	L	L	L	H	
1D	BIS	L	L	H	L	L	L	L	H	
1E	ADD	L	L	H	L	L	H	L	H	
1F	ASHC	L	L	H	H	H	H	L	H	

PROM ADDR	OP CODE	PROM DATA								
		M7	M6	M5	M4	M3	M2	M1	M0	
20	X	L	L	L	L	L	L	L	H	
21	MOV	L	L	H	L	L	L	L	H	
22	CMP	L	H	L	H	L	H	L	H	
23	BIT	L	L	H	L	L	L	L	H	
24	BIC	L	L	H	L	L	L	L	H	
25	BIS	L	L	H	L	L	L	L	H	
26	ADD	L	L	H	L	L	H	L	H	
27	XOR	L	L	H	L	L	L	L	H	
28	X	L	L	L	L	L	L	L	H	
29	MOV	L	L	H	L	L	L	L	H	
2A	CMP	L	H	L	H	L	H	L	H	
2B	BIT	L	L	H	L	L	L	L	H	
2C	BIC	L	L	H	L	L	L	L	H	
2D	BIS	L	L	H	L	L	L	L	H	
2E	ADD	L	L	H	L	L	H	L	H	
2F	X	L	L	L	L	L	L	L	H	
30	X	L	L	L	L	L	L	L	H	
31	MOV	L	L	H	L	L	L	L	H	
32	CMP	L	H	L	H	L	H	L	H	
33	BIT	L	L	H	L	L	L	L	H	
34	BIC	L	L	H	L	L	L	L	H	
35	BIS	L	L	H	L	L	L	L	H	
36	ADD	L	L	H	L	L	H	L	H	
37	X	L	L	L	L	L	L	L	H	
38	X	L	L	L	L	L	L	L	H	
39	MOV	L	L	H	L	L	L	L	H	
3A	CMP	L	H	L	H	L	H	L	H	
3B	BIT	L	L	H	L	L	L	L	H	
3C	BIC	L	L	H	L	L	L	L	H	
3D	BIS	L	L	H	L	L	L	L	H	
3E	ADD	L	L	H	L	L	H	L	H	
3F	SOB	L	L	L	L	L	L	L	H	

PROM ADDR	OP CODE	PROM DATA								
		M7	M6	M5	M4	M3	M2	M1	M0	
40	X	L	L	L	L	L	L	L	H	
41	MOVB	L	L	H	L	L	L	L	H	
42	CMPB	L	H	L	H	L	H	L	H	
43	BITB	L	L	H	L	L	L	L	H	
44	BICB	L	L	H	L	L	L	L	H	
45	BISB	L	L	H	L	L	L	L	H	
46	SUB	L	L	H	L	H	L	L	H	
47	X	L	L	L	L	L	L	L	H	
48	X	L	L	L	L	L	L	L	H	
49	MOVB	L	L	H	L	L	L	L	H	
4A	CMPB	L	H	L	H	L	H	L	H	
4B	BITB	L	L	H	L	L	L	L	H	
4C	BICB	L	L	H	L	L	L	L	H	
4D	BISB	L	L	H	L	L	L	L	H	
4E	SUB	L	L	H	L	H	L	L	H	
4F	X	L	L	L	L	L	L	L	H	
50	X	L	L	L	L	L	L	L	H	
51	MOVB	L	L	H	L	L	L	L	H	
52	CMPB	L	H	L	H	L	H	L	H	
53	BITB	L	L	H	L	L	L	L	H	
54	BICB	L	L	H	L	L	L	L	H	
55	BISB	L	L	H	L	L	L	L	H	
56	SUB	L	L	H	L	H	L	L	H	
57	X	L	L	L	L	L	L	L	H	
58	X	L	L	L	L	L	L	L	H	
59	MOVB	L	L	H	L	L	L	L	H	
5A	CMPB	L	H	L	H	L	H	L	H	
5B	BITB	L	L	H	L	L	L	L	H	
5C	BICB	L	L	H	L	L	L	L	H	
5D	BISB	L	L	H	L	L	L	L	H	
5E	SUB	L	L	H	L	H	L	L	H	
5F	X	L	L	L	L	L	L	L	H	

PROM ADDR	OP CODE	PROM DATA								
		M7	M6	M5	M4	M3	M2	M1	M0	
60	X	L	L	L	L	L	L	L	H	
61	MOVB	L	L	H	L	L	L	L	H	
62	CMPB	L	H	L	H	L	H	L	H	
63	BITB	L	L	H	L	L	L	L	H	
64	BICB	L	L	H	L	L	L	L	H	
65	BISB	L	L	H	L	L	L	L	H	
66	SUB	L	L	H	L	H	L	L	H	
67	X	L	L	L	L	L	L	L	H	
68	X	L	L	L	L	L	L	L	H	
69	MOVB	L	L	H	L	L	L	L	H	
6A	CMPB	L	H	L	H	L	H	L	H	
6B	BITB	L	L	H	L	L	L	L	H	
6C	BICB	L	L	H	L	L	L	L	H	
6D	BISB	L	L	H	L	L	L	L	H	
6E	SUB	L	L	H	L	H	L	L	H	
6F	X	L	L	L	L	L	L	L	H	
70	X	L	L	L	L	L	L	L	H	
71	MOVB	L	L	H	L	L	L	L	H	
72	CMPB	L	H	L	H	L	H	L	H	
73	BITB	L	L	H	L	L	L	L	H	
74	BICB	L	L	H	L	L	L	L	H	
75	BISB	L	L	H	L	L	L	L	H	
76	SUB	L	L	H	L	H	L	L	H	
77	X	L	L	L	L	L	L	L	H	
78	X	L	L	L	L	L	L	L	H	
79	MOVB	L	L	H	L	L	L	L	H	
7A	CMPB	L	H	L	H	L	H	L	H	
7B	BITB	L	L	H	L	L	L	L	H	
7C	BICB	L	L	H	L	L	L	L	H	
7D	BISB	L	L	H	L	L	L	L	H	
7E	SUB	L	L	H	L	H	L	L	H	
7F	X	L	L	L	L	L	L	L	H	

PROM ADDRESS							
IR(14:12)=0							
1	IR15	IR11	IR10	IR09	IR08	IR07	IR06
IR(14:12)≠0							
0	IR15	IR11	IR10	IR09	IR14	IR13	IR12

REVISIONS		
CHK	CHANGE NO.	REV.

(CCID-CM PROM TRUTH TABLE)

TITLE		COND. CODE EXCEPT. AND HIGH BITS (CEHY)	SIZE CODE		NUMBER	REV.
SCALE		11	SHEET		26 OF 29	DIST.
					DCS M8230-0-1	C

8	7	6	5	4	3	2	1																																																																																																																																																																																																																																																																																																																																																				
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION																																																																																																																																																																																																																																																																																																																																																											
CONDITION CODE INSTR. DEPENDENT PROM - CMP MODE (23013BI-00)																																																																																																																																																																																																																																																																																																																																																											
<table><tr><td colspan="2"></td><td>Z1 CODE 2 H</td><td>Z1 CODE 1 H</td><td>Z1 CODE 0 H</td><td>CV CODE 3 H</td><td>CV CODE 2 H</td><td>CV CODE 1 H</td><td>CV CODE 0 H</td><td>EN IV TRAP L</td></tr><tr><td>PROM ADDR</td><td>OP CODE</td><td>M7</td><td>M6</td><td>M5</td><td>M4</td><td>M3</td><td>M2</td><td>M1</td><td>M0</td></tr><tr><td>80</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>81</td><td>TM1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>82</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>83</td><td>SWAB</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>84</td><td>BR</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>85</td><td>BR</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>86</td><td>BR</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>87</td><td>BR</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>88</td><td>BNE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>89</td><td>BNE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8A</td><td>BNE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8B</td><td>BNE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8C</td><td>BEQ</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8D</td><td>BEQ</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8E</td><td>BEQ</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8F</td><td>BEQ</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>90</td><td>BGE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>91</td><td>BGE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>92</td><td>BGE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>93</td><td>BGE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>94</td><td>BLT</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>95</td><td>BLT</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>96</td><td>BLT</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>97</td><td>BLT</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>98</td><td>BGT</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>99</td><td>BGT</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9A</td><td>BGT</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9B</td><td>BGT</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9C</td><td>BLE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9D</td><td>BLE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9E</td><td>BLE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9F</td><td>BLE</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>										Z1 CODE 2 H	Z1 CODE 1 H	Z1 CODE 0 H	CV CODE 3 H	CV CODE 2 H	CV CODE 1 H	CV CODE 0 H	EN IV TRAP L	PROM ADDR	OP CODE	M7	M6	M5	M4	M3	M2	M1	M0	80	X	L	L	L	L	L	L	L	H	81	TM1									82	X									83	SWAB									84	BR									85	BR									86	BR									87	BR									88	BNE									89	BNE									8A	BNE									8B	BNE									8C	BEQ									8D	BEQ									8E	BEQ									8F	BEQ									90	BGE									91	BGE									92	BGE									93	BGE									94	BLT									95	BLT									96	BLT									97	BLT									98	BGT									99	BGT									9A	BGT									9B	BGT									9C	BLE									9D	BLE									9E	BLE									9F	BLE								
		Z1 CODE 2 H	Z1 CODE 1 H	Z1 CODE 0 H	CV CODE 3 H	CV CODE 2 H	CV CODE 1 H	CV CODE 0 H	EN IV TRAP L																																																																																																																																																																																																																																																																																																																																																		
PROM ADDR	OP CODE	M7	M6	M5	M4	M3	M2	M1	M0																																																																																																																																																																																																																																																																																																																																																		
80	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
81	TM1																																																																																																																																																																																																																																																																																																																																																										
82	X																																																																																																																																																																																																																																																																																																																																																										
83	SWAB																																																																																																																																																																																																																																																																																																																																																										
84	BR																																																																																																																																																																																																																																																																																																																																																										
85	BR																																																																																																																																																																																																																																																																																																																																																										
86	BR																																																																																																																																																																																																																																																																																																																																																										
87	BR																																																																																																																																																																																																																																																																																																																																																										
88	BNE																																																																																																																																																																																																																																																																																																																																																										
89	BNE																																																																																																																																																																																																																																																																																																																																																										
8A	BNE																																																																																																																																																																																																																																																																																																																																																										
8B	BNE																																																																																																																																																																																																																																																																																																																																																										
8C	BEQ																																																																																																																																																																																																																																																																																																																																																										
8D	BEQ																																																																																																																																																																																																																																																																																																																																																										
8E	BEQ																																																																																																																																																																																																																																																																																																																																																										
8F	BEQ																																																																																																																																																																																																																																																																																																																																																										
90	BGE																																																																																																																																																																																																																																																																																																																																																										
91	BGE																																																																																																																																																																																																																																																																																																																																																										
92	BGE																																																																																																																																																																																																																																																																																																																																																										
93	BGE																																																																																																																																																																																																																																																																																																																																																										
94	BLT																																																																																																																																																																																																																																																																																																																																																										
95	BLT																																																																																																																																																																																																																																																																																																																																																										
96	BLT																																																																																																																																																																																																																																																																																																																																																										
97	BLT																																																																																																																																																																																																																																																																																																																																																										
98	BGT																																																																																																																																																																																																																																																																																																																																																										
99	BGT																																																																																																																																																																																																																																																																																																																																																										
9A	BGT																																																																																																																																																																																																																																																																																																																																																										
9B	BGT																																																																																																																																																																																																																																																																																																																																																										
9C	BLE																																																																																																																																																																																																																																																																																																																																																										
9D	BLE																																																																																																																																																																																																																																																																																																																																																										
9E	BLE																																																																																																																																																																																																																																																																																																																																																										
9F	BLE																																																																																																																																																																																																																																																																																																																																																										
<table><tr><td colspan="2"></td><td>Z1 CODE 2 H</td><td>Z1 CODE 1 H</td><td>Z1 CODE 0 H</td><td>CV CODE 3 H</td><td>CV CODE 2 H</td><td>CV CODE 1 H</td><td>CV CODE 0 H</td><td>EN IV TRAP L</td></tr><tr><td>PROM ADDR</td><td>OP CODE</td><td>M7</td><td>M6</td><td>M5</td><td>M4</td><td>M3</td><td>M2</td><td>M1</td><td>M0</td></tr><tr><td>A0</td><td>JSR</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>A1</td><td>JSR</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>A2</td><td>JSR</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>A3</td><td>JSR</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>A4</td><td>JSR</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>A5</td><td>JSR</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>A6</td><td>JSR</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>A7</td><td>JSR</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>A8</td><td>CLR</td><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td>A9</td><td>COM</td><td>L</td><td>L</td><td>H</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>AA</td><td>INC</td><td>L</td><td>L</td><td>H</td><td>L</td><td>H</td><td>H</td><td>L</td><td>H</td></tr><tr><td>AB</td><td>DEC</td><td>L</td><td>L</td><td>H</td><td>L</td><td>H</td><td>H</td><td>H</td><td>H</td></tr><tr><td>AC</td><td>NEG</td><td>L</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td><td>L</td><td>H</td></tr><tr><td>AD</td><td>ADC</td><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td></tr><tr><td>AE</td><td>SBC</td><td>L</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td><td>H</td><td>H</td></tr><tr><td>AF</td><td>TST</td><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td>B0</td><td>ROR</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td><td>L</td><td>L</td><td>H</td></tr><tr><td>B1</td><td>ROL</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td><td>L</td><td>H</td><td>H</td></tr><tr><td>B2</td><td>ASR</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td><td>L</td><td>L</td><td>H</td></tr><tr><td>B3</td><td>ASL</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td><td>L</td><td>H</td><td>H</td></tr><tr><td>B4</td><td>MARK</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>B5</td><td>MFPI</td><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>B6</td><td>MTPi</td><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>B7</td><td>SXT</td><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>B8</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>B9</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>BA</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>BB</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>BC</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>BD</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>BE</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>BF</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr></table>										Z1 CODE 2 H	Z1 CODE 1 H	Z1 CODE 0 H	CV CODE 3 H	CV CODE 2 H	CV CODE 1 H	CV CODE 0 H	EN IV TRAP L	PROM ADDR	OP CODE	M7	M6	M5	M4	M3	M2	M1	M0	A0	JSR	L	L	L	L	L	L	L	H	A1	JSR	L	L	L	L	L	L	L	H	A2	JSR	L	L	L	L	L	L	L	H	A3	JSR	L	L	L	L	L	L	L	H	A4	JSR	L	L	L	L	L	L	L	H	A5	JSR	L	L	L	L	L	L	L	H	A6	JSR	L	L	L	L	L	L	L	H	A7	JSR	L	L	L	L	L	L	L	H	A8	CLR	L	L	H	L	L	L	H	H	A9	COM	L	L	H	H	L	L	L	H	AA	INC	L	L	H	L	H	H	L	H	AB	DEC	L	L	H	L	H	H	H	H	AC	NEG	L	L	H	L	H	L	L	H	AD	ADC	L	L	H	L	L	H	H	H	AE	SBC	L	L	H	L	H	L	H	H	AF	TST	L	L	H	L	L	L	H	H	B0	ROR	L	L	H	H	H	L	L	H	B1	ROL	L	L	H	H	H	L	H	H	B2	ASR	L	L	H	H	H	L	L	H	B3	ASL	L	L	H	H	H	L	H	H	B4	MARK	L	L	L	L	L	L	L	H	B5	MFPI	L	L	H	L	L	L	L	H	B6	MTPi	L	L	H	L	L	L	L	H	B7	SXT	L	L	H	L	L	L	L	H	B8	X	L	L	L	L	L	L	L	H	B9	X	L	L	L	L	L	L	L	H	BA	X	L	L	L	L	L	L	L	H	BB	X	L	L	L	L	L	L	L	H	BC	X	L	L	L	L	L	L	L	H	BD	X	L	L	L	L	L	L	L	H	BE	X	L	L	L	L	L	L	L	H	BF	X	L	L	L	L	L	L	L	H
		Z1 CODE 2 H	Z1 CODE 1 H	Z1 CODE 0 H	CV CODE 3 H	CV CODE 2 H	CV CODE 1 H	CV CODE 0 H	EN IV TRAP L																																																																																																																																																																																																																																																																																																																																																		
PROM ADDR	OP CODE	M7	M6	M5	M4	M3	M2	M1	M0																																																																																																																																																																																																																																																																																																																																																		
A0	JSR	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
A1	JSR	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
A2	JSR	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
A3	JSR	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
A4	JSR	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
A5	JSR	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
A6	JSR	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
A7	JSR	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
A8	CLR	L	L	H	L	L	L	H	H																																																																																																																																																																																																																																																																																																																																																		
A9	COM	L	L	H	H	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
AA	INC	L	L	H	L	H	H	L	H																																																																																																																																																																																																																																																																																																																																																		
AB	DEC	L	L	H	L	H	H	H	H																																																																																																																																																																																																																																																																																																																																																		
AC	NEG	L	L	H	L	H	L	L	H																																																																																																																																																																																																																																																																																																																																																		
AD	ADC	L	L	H	L	L	H	H	H																																																																																																																																																																																																																																																																																																																																																		
AE	SBC	L	L	H	L	H	L	H	H																																																																																																																																																																																																																																																																																																																																																		
AF	TST	L	L	H	L	L	L	H	H																																																																																																																																																																																																																																																																																																																																																		
B0	ROR	L	L	H	H	H	L	L	H																																																																																																																																																																																																																																																																																																																																																		
B1	ROL	L	L	H	H	H	L	H	H																																																																																																																																																																																																																																																																																																																																																		
B2	ASR	L	L	H	H	H	L	L	H																																																																																																																																																																																																																																																																																																																																																		
B3	ASL	L	L	H	H	H	L	H	H																																																																																																																																																																																																																																																																																																																																																		
B4	MARK	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
B5	MFPI	L	L	H	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
B6	MTPi	L	L	H	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
B7	SXT	L	L	H	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
B8	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
B9	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
BA	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
BB	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
BC	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
BD	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
BE	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
BF	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
<table><tr><td colspan="2"></td><td>Z1 CODE 2 H</td><td>Z1 CODE 1 H</td><td>Z1 CODE 0 H</td><td>CV CODE 3 H</td><td>CV CODE 2 H</td><td>CV CODE 1 H</td><td>CV CODE 0 H</td><td>EN IV TRAP L</td></tr><tr><td>PROM ADDR</td><td>OP CODE</td><td>M7</td><td>M6</td><td>M5</td><td>M4</td><td>M3</td><td>M2</td><td>M1</td><td>M0</td></tr><tr><td>C0</td><td>BPL</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>C1</td><td>BPL</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>C2</td><td>BPL</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>C3</td><td>BPL</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>C4</td><td>BMI</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>C5</td><td>BMI</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>C6</td><td>BMI</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>C7</td><td>BMI</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>C8</td><td>BHI</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>C9</td><td>BHI</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CA</td><td>BHI</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CB</td><td>BHI</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CC</td><td>BLOS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CD</td><td>BLOS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CE</td><td>BLOS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CF</td><td>BLOS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>D0</td><td>BVC</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>D1</td><td>BVC</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>D2</td><td>BVC</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>D3</td><td>BVC</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>D4</td><td>BVS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>D5</td><td>BVS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>D6</td><td>BVS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>D7</td><td>BVS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>D8</td><td>BCC</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>D9</td><td>BCC</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>DA</td><td>BCC</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>DB</td><td>BCC</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>DC</td><td>BCS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>DD</td><td>BCS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>DE</td><td>BCS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>DF</td><td>BCS</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>										Z1 CODE 2 H	Z1 CODE 1 H	Z1 CODE 0 H	CV CODE 3 H	CV CODE 2 H	CV CODE 1 H	CV CODE 0 H	EN IV TRAP L	PROM ADDR	OP CODE	M7	M6	M5	M4	M3	M2	M1	M0	C0	BPL	L	L	L	L	L	L	L	H	C1	BPL									C2	BPL									C3	BPL									C4	BMI									C5	BMI									C6	BMI									C7	BMI									C8	BHI									C9	BHI									CA	BHI									CB	BHI									CC	BLOS									CD	BLOS									CE	BLOS									CF	BLOS									D0	BVC									D1	BVC									D2	BVC									D3	BVC									D4	BVS									D5	BVS									D6	BVS									D7	BVS									D8	BCC									D9	BCC									DA	BCC									DB	BCC									DC	BCS									DD	BCS									DE	BCS									DF	BCS								
		Z1 CODE 2 H	Z1 CODE 1 H	Z1 CODE 0 H	CV CODE 3 H	CV CODE 2 H	CV CODE 1 H	CV CODE 0 H	EN IV TRAP L																																																																																																																																																																																																																																																																																																																																																		
PROM ADDR	OP CODE	M7	M6	M5	M4	M3	M2	M1	M0																																																																																																																																																																																																																																																																																																																																																		
C0	BPL	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
C1	BPL																																																																																																																																																																																																																																																																																																																																																										
C2	BPL																																																																																																																																																																																																																																																																																																																																																										
C3	BPL																																																																																																																																																																																																																																																																																																																																																										
C4	BMI																																																																																																																																																																																																																																																																																																																																																										
C5	BMI																																																																																																																																																																																																																																																																																																																																																										
C6	BMI																																																																																																																																																																																																																																																																																																																																																										
C7	BMI																																																																																																																																																																																																																																																																																																																																																										
C8	BHI																																																																																																																																																																																																																																																																																																																																																										
C9	BHI																																																																																																																																																																																																																																																																																																																																																										
CA	BHI																																																																																																																																																																																																																																																																																																																																																										
CB	BHI																																																																																																																																																																																																																																																																																																																																																										
CC	BLOS																																																																																																																																																																																																																																																																																																																																																										
CD	BLOS																																																																																																																																																																																																																																																																																																																																																										
CE	BLOS																																																																																																																																																																																																																																																																																																																																																										
CF	BLOS																																																																																																																																																																																																																																																																																																																																																										
D0	BVC																																																																																																																																																																																																																																																																																																																																																										
D1	BVC																																																																																																																																																																																																																																																																																																																																																										
D2	BVC																																																																																																																																																																																																																																																																																																																																																										
D3	BVC																																																																																																																																																																																																																																																																																																																																																										
D4	BVS																																																																																																																																																																																																																																																																																																																																																										
D5	BVS																																																																																																																																																																																																																																																																																																																																																										
D6	BVS																																																																																																																																																																																																																																																																																																																																																										
D7	BVS																																																																																																																																																																																																																																																																																																																																																										
D8	BCC																																																																																																																																																																																																																																																																																																																																																										
D9	BCC																																																																																																																																																																																																																																																																																																																																																										
DA	BCC																																																																																																																																																																																																																																																																																																																																																										
DB	BCC																																																																																																																																																																																																																																																																																																																																																										
DC	BCS																																																																																																																																																																																																																																																																																																																																																										
DD	BCS																																																																																																																																																																																																																																																																																																																																																										
DE	BCS																																																																																																																																																																																																																																																																																																																																																										
DF	BCS																																																																																																																																																																																																																																																																																																																																																										
<table><tr><td colspan="2"></td><td>Z1 CODE 2 H</td><td>Z1 CODE 1 H</td><td>Z1 CODE 0 H</td><td>CV CODE 3 H</td><td>CV CODE 2 H</td><td>CV CODE 1 H</td><td>CV CODE 0 H</td><td>EN IV TRAP L</td></tr><tr><td>PROM ADDR</td><td>OP CODE</td><td>M7</td><td>M6</td><td>M5</td><td>M4</td><td>M3</td><td>M2</td><td>M1</td><td>M0</td></tr><tr><td>E0</td><td>EMT</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>E1</td><td>EMT</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>E2</td><td>EMT</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>E3</td><td>EMT</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>E4</td><td>TRAP</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>E5</td><td>TRAP</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>E6</td><td>TRAP</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>E7</td><td>TRAP</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>E8</td><td>CLRB</td><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td>E9</td><td>COMB</td><td>L</td><td>L</td><td>H</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>EA</td><td>INCB</td><td>L</td><td>L</td><td>H</td><td>L</td><td>H</td><td>H</td><td>L</td><td>H</td></tr><tr><td>EB</td><td>DECB</td><td>L</td><td>L</td><td>H</td><td>L</td><td>H</td><td>H</td><td>H</td><td>H</td></tr><tr><td>EC</td><td>NEGB</td><td>L</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td><td>L</td><td>H</td></tr><tr><td>ED</td><td>ADCB</td><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td></tr><tr><td>EE</td><td>SBCB</td><td>L</td><td>L</td><td>H</td><td>L</td><td>H</td><td>L</td><td>H</td><td>H</td></tr><tr><td>EF</td><td>TSTB</td><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>H</td></tr><tr><td>F0</td><td>RORB</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td><td>L</td><td>L</td><td>H</td></tr><tr><td>F1</td><td>ROLB</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td><td>L</td><td>H</td><td>H</td></tr><tr><td>F2</td><td>ASRB</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td><td>L</td><td>L</td><td>H</td></tr><tr><td>F3</td><td>ASLB</td><td>L</td><td>L</td><td>H</td><td>H</td><td>H</td><td>L</td><td>H</td><td>H</td></tr><tr><td>F4</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>F5</td><td>MFPD</td><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>F6</td><td>MTPD</td><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>F7</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>F8</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>F9</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>FA</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>FB</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>FC</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>FD</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>FE</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr><tr><td>FF</td><td>X</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr></table>										Z1 CODE 2 H	Z1 CODE 1 H	Z1 CODE 0 H	CV CODE 3 H	CV CODE 2 H	CV CODE 1 H	CV CODE 0 H	EN IV TRAP L	PROM ADDR	OP CODE	M7	M6	M5	M4	M3	M2	M1	M0	E0	EMT	L	L	L	L	L	L	L	H	E1	EMT	L	L	L	L	L	L	L	H	E2	EMT	L	L	L	L	L	L	L	H	E3	EMT	L	L	L	L	L	L	L	H	E4	TRAP	L	L	L	L	L	L	L	H	E5	TRAP	L	L	L	L	L	L	L	H	E6	TRAP	L	L	L	L	L	L	L	H	E7	TRAP	L	L	L	L	L	L	L	H	E8	CLRB	L	L	H	L	L	L	H	H	E9	COMB	L	L	H	H	L	L	L	H	EA	INCB	L	L	H	L	H	H	L	H	EB	DECB	L	L	H	L	H	H	H	H	EC	NEGB	L	L	H	L	H	L	L	H	ED	ADCB	L	L	H	L	L	H	H	H	EE	SBCB	L	L	H	L	H	L	H	H	EF	TSTB	L	L	H	L	L	L	H	H	F0	RORB	L	L	H	H	H	L	L	H	F1	ROLB	L	L	H	H	H	L	H	H	F2	ASRB	L	L	H	H	H	L	L	H	F3	ASLB	L	L	H	H	H	L	H	H	F4	X	L	L	L	L	L	L	L	H	F5	MFPD	L	L	H	L	L	L	L	H	F6	MTPD	L	L	H	L	L	L	L	H	F7	X	L	L	L	L	L	L	L	H	F8	X	L	L	L	L	L	L	L	H	F9	X	L	L	L	L	L	L	L	H	FA	X	L	L	L	L	L	L	L	H	FB	X	L	L	L	L	L	L	L	H	FC	X	L	L	L	L	L	L	L	H	FD	X	L	L	L	L	L	L	L	H	FE	X	L	L	L	L	L	L	L	H	FF	X	L	L	L	L	L	L	L	H
		Z1 CODE 2 H	Z1 CODE 1 H	Z1 CODE 0 H	CV CODE 3 H	CV CODE 2 H	CV CODE 1 H	CV CODE 0 H	EN IV TRAP L																																																																																																																																																																																																																																																																																																																																																		
PROM ADDR	OP CODE	M7	M6	M5	M4	M3	M2	M1	M0																																																																																																																																																																																																																																																																																																																																																		
E0	EMT	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
E1	EMT	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
E2	EMT	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
E3	EMT	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
E4	TRAP	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
E5	TRAP	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
E6	TRAP	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
E7	TRAP	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
E8	CLRB	L	L	H	L	L	L	H	H																																																																																																																																																																																																																																																																																																																																																		
E9	COMB	L	L	H	H	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
EA	INCB	L	L	H	L	H	H	L	H																																																																																																																																																																																																																																																																																																																																																		
EB	DECB	L	L	H	L	H	H	H	H																																																																																																																																																																																																																																																																																																																																																		
EC	NEGB	L	L	H	L	H	L	L	H																																																																																																																																																																																																																																																																																																																																																		
ED	ADCB	L	L	H	L	L	H	H	H																																																																																																																																																																																																																																																																																																																																																		
EE	SBCB	L	L	H	L	H	L	H	H																																																																																																																																																																																																																																																																																																																																																		
EF	TSTB	L	L	H	L	L	L	H	H																																																																																																																																																																																																																																																																																																																																																		
F0	RORB	L	L	H	H	H	L	L	H																																																																																																																																																																																																																																																																																																																																																		
F1	ROLB	L	L	H	H	H	L	H	H																																																																																																																																																																																																																																																																																																																																																		
F2	ASRB	L	L	H	H	H	L	L	H																																																																																																																																																																																																																																																																																																																																																		
F3	ASLB	L	L	H	H	H	L	H	H																																																																																																																																																																																																																																																																																																																																																		
F4	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
F5	MFPD	L	L	H	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
F6	MTPD	L	L	H	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
F7	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
F8	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
F9	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
FA	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
FB	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
FC	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
FD	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
FE	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		
FF	X	L	L	L	L	L	L	L	H																																																																																																																																																																																																																																																																																																																																																		

REVISIONS

CHK	CHANGE NO.	REV

COND. CODES EXCEPT AND HIGH BITS (CEHZ)

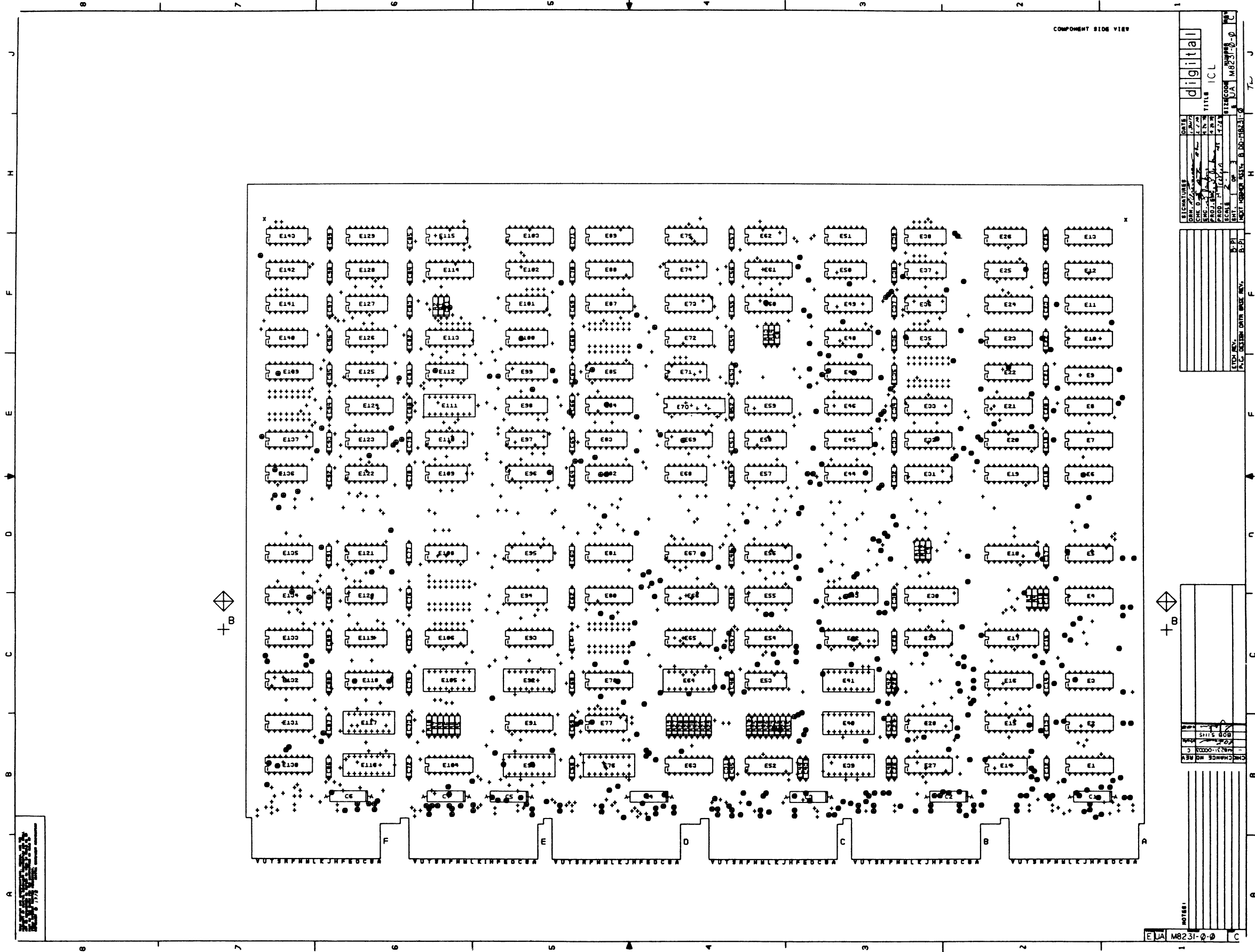
SCALE	SHEET 27 OF 23	DIST.	NUMBER DCS M8230-0-1	REV. C
-------	----------------	-------	----------------------	--------

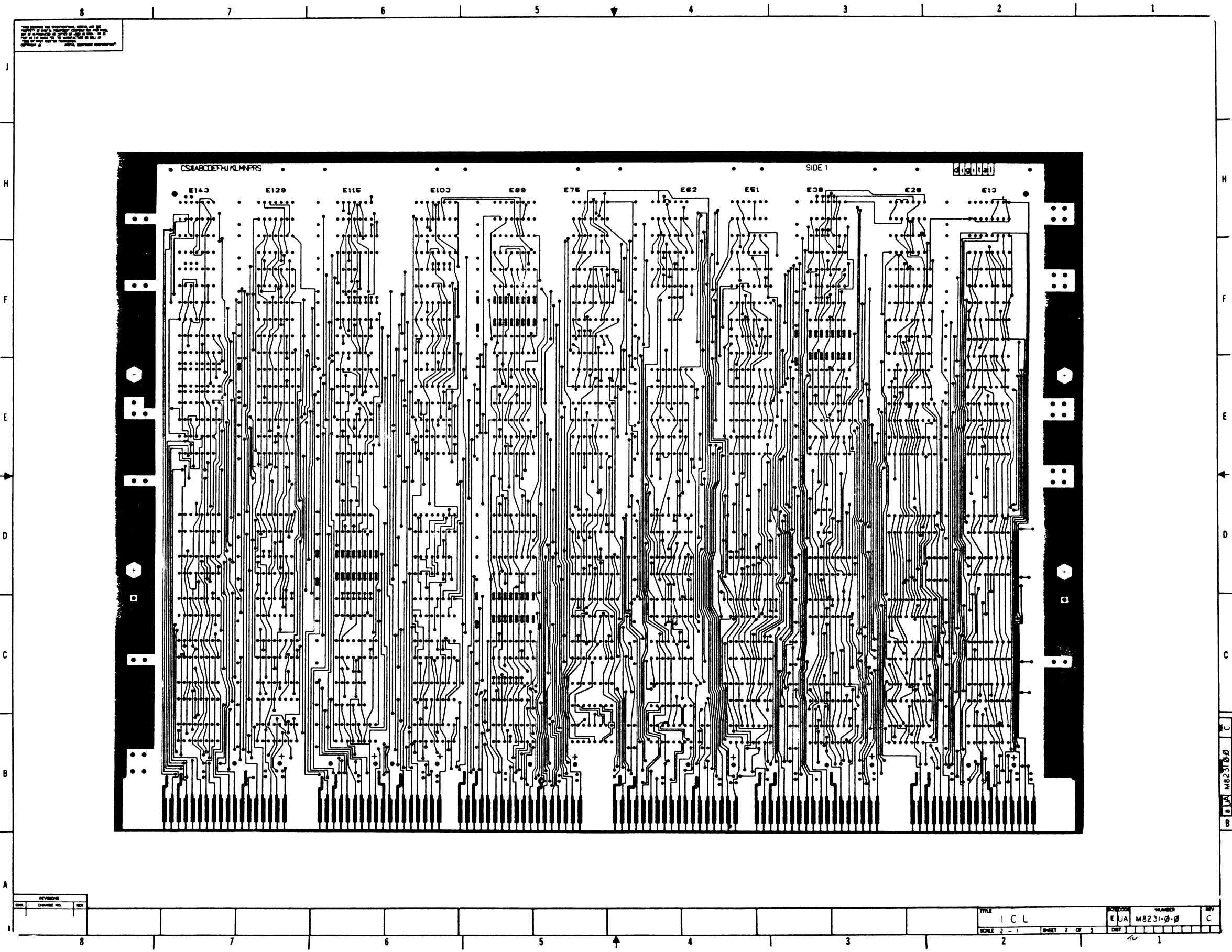
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

PRIOR/SUM PROM (23017B1-00)

PRIOR (2:0) L										SUM (3:0) H									
ZERO H										ZERO H									
FROM ADDR										FROM ADDR									
PROM DATA										PROM DATA									
M7	M6	M5	M4	M3	M2	M1	M0			M7	M6	M5	M4	M3	M2	M1	M0		
80	L	L	L	L	L	L	L	H		A0	L	L	H	L	L	L	H	L	
81	L	H	H	H	L	L	H	L		A1	L	H	H	H	L	L	H	H	
82	L	H	H	L	L	L	H	L		A2	L	H	H	L	L	L	H	H	
83	L	H	H	H	L	L	H	H		A3	L	H	H	H	L	H	L	L	
84	L	H	L	H	L	L	H	L		A4	L	H	L	H	L	L	H	H	
85	L	H	H	H	L	L	H	H		A5	L	H	H	H	L	H	L	L	
86	L	H	H	L	L	L	H	H		A6	L	H	H	L	L	H	L	L	
87	L	H	H	H	L	H	L	L		A7	L	H	H	L	H	L	H		
88	L	H	L	L	L	L	H	L		A8	L	H	L	L	L	H	H		
89	L	H	H	H	L	L	H	H		A9	L	H	H	H	L	H	L	L	
8A	L	H	H	L	L	L	H	H		AA	L	H	H	L	L	H	L	L	
8B	L	H	H	H	L	H	L	L		AB	L	H	H	H	L	H	L	H	
8C	L	H	L	H	L	L	H	H		AC	L	H	L	H	L	H	L	L	
8D	L	H	H	H	L	H	L	L		AD	L	H	H	H	L	H	L	H	
8E	L	H	H	L	L	H	L	L		AE	L	H	H	L	L	H	L	H	
8F	L	H	H	H	L	H	L	H		AF	L	H	H	H	L	H	H	L	
90	L	L	H	H	L	L	H	L		B0	L	L	H	H	L	L	H	H	
91	L	H	H	H	L	L	H	H		B1	L	H	H	H	L	H	L	L	
92	L	H	H	L	L	L	H	H		B2	L	H	H	L	L	H	L	L	
93	L	H	H	H	L	H	L	L		B3	L	H	H	H	L	H	L	H	
94	L	H	L	H	L	L	H	H		B4	L	H	L	H	L	H	L	L	
95	L	H	H	H	L	H	L	L		B5	L	H	H	H	L	H	L	H	
96	L	H	H	L	L	H	L	L		B6	L	H	H	L	L	H	L	H	
97	L	H	H	H	L	H	L	H		B7	L	H	H	H	L	H	H	L	
98	L	H	L	L	L	L	H	H		B8	L	H	L	L	L	H	L	L	
99	L	H	H	H	L	H	L	L		B9	L	H	H	H	L	H	L	H	
9A	L	H	H	L	L	H	L	L		BA	L	H	H	L	L	H	L	H	
9B	L	H	H	H	L	H	L	H		BB	L	H	H	H	L	H	H	L	
9C	L	H	L	H	L	H	L	L		BC	L	H	L	H	L	H	L	H	
9D	L	H	H	H	L	H	L	H		BD	L	H	H	H	L	H	H	L	
9E	L	H	H	L	L	H	L	H		BE	L	H	H	L	L	H	H	L	
9F	L	H	H	H	L	H	H	L		BF	L	H	H	H	L	H	H	H	

PRIOR (2:0) L										SUM (3:0) H									
ZERO H										ZERO H									
FROM ADDR										FROM ADDR									
PROM DATA										PROM DATA									
M7	M6	M5	M4	M3	M2	M1	M0			M7	M6	M5	M4	M3	M2	M1	M0		
C0	L	L	L	H	L	L	H	L		E0	L	L	H	L	L	L	H	H	
C1	L	H	H	H	L	L	H	H		E1	L	H	H	H	L	H	L	L	
C2	L	H	H	L	L	L	H	H		E2	L	H	H	L	L	H	L	L	
C3	L	H	H	H	L	H	L	L		E3	L	H	H	H	L	H	L	H	
C4	L	H	L	H	L	L	H	H		E4	L	H	L	H	L	H	L	L	
C5	L	H	H	H	L	H	L	L		E5	L	H	H	H	L	H	L	H	
C6	L	H	H	L	L	H	L	L		E6	L	H	H	L	L	H	L	H	
C7	L	H	H	H	L	H	L	H		E7	L	H	H	H	L	H	H	L	
C8	L	H	L	L	L	L	H	H		E8	L	H	L	L	L	H	L	L	
C9	L	H	H	H	L	H	L	L		E9	L	H	H	H	L	H	L	H	
CA	L	H	H	L	L	H	L	L		EA	L	H	H	L	L	H	L	H	
CB	L	H	H	H	L	H	L	H		EB	L	H	H	H	L	H	H	L	
CC	L	H	L	H	L	H	L	L		EC	L	H	L	H	L	H	L	H	
CD	L	H	H	H	L	H	L	H		ED	L	H	H	H	L	H	H	L	
CE	L	H	H	L	L	H	L	H		EE	L	H	H	L	L	H	H	L	
CF	L	H	H	H	L	H	H	L		EF	L	H	H	H	L	H	H	H	
D0	L	L	H	H	L	L	H	H		F0	L	L	H	H	L	H	L	L	
D1	L	H	H	H	L	H	L	L		F1	L	H	H	H	L	H	L	H	
D2	L	H	H	L	L	H	L	L		F2	L	H	H	L	L	H	L	H	
D3	L	H	H	H	L	H	L	H		F3	L	H	H	H	L	H	H	L	
D4	L	H	L	H	L	H	L	L		F4	L	H	L	H	L	H	L	H	
D5	L	H	H	H	L	H	L	H		F5	L	H	H	H	L	H	H	L	
D6	L	H	H	L	L	H	L	H		F6	L	H	H	L	L	H	H	L	
D7	L	H	H	H	L	H	H	L		F7	L	H	H	H	L	H	H	H	
D8	L	H	L	L	L	H	L	L		F8	L	H	L	L	L	H	L	H	
D9	L	H	H	H	L	H	L	H		F9	L	H	H	H	L	H	H	L	
DA	L	H	H	L	L	H	L	H		FA	L	H	H	L	L	H	H	L	
DB	L	H	H	H	L	H	H	L		FB	L	H	H	H	L	H	H	H	
DC	L	H	L	H	L	H	L	H		FC	L	H	L	H	L	H	H	L	
DD	L	H	H	H	L	H	H	L		FD	L	H	H	H	L	H	H	H	
DE	L	H	H	L	L	H	H	L		FE	L	H	H	L	L	H	H	H	
DF	L	H	H	H	L	H	H	H		FF	L	H	H	H	H	L	L	L	

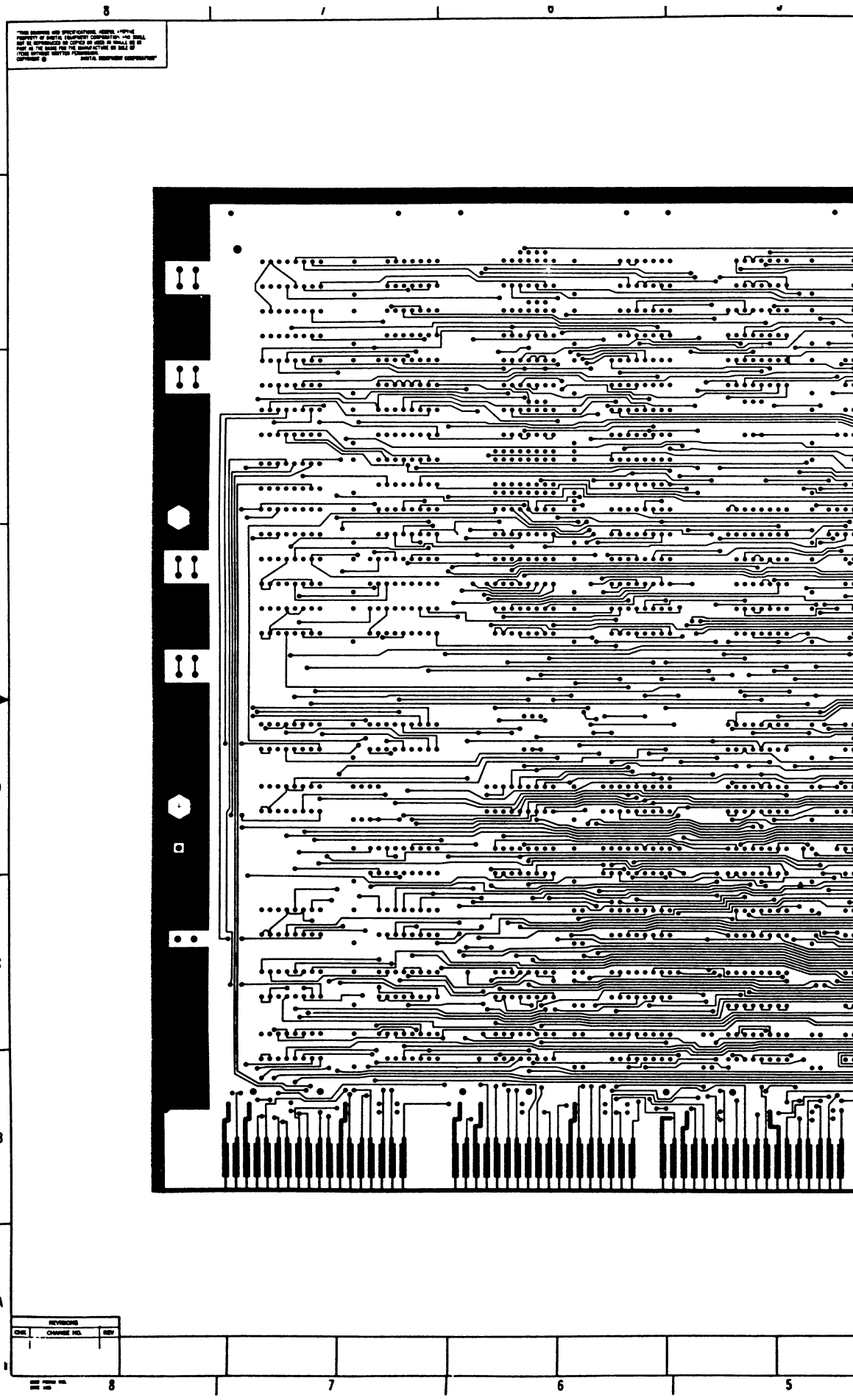




REVISIONS		
CHK	CHANGE NO.	REV

TITLE		DRAWN		NUMBER		REV	
I C L		E J A		M8231-0-0		C	
SCALE 2 - 1	SHEET 2 OF 3	CHK					

2 1



THIS DRAWING AND SPECIFICATION, HEREIN, ARE THE PROPERTY OF THE UNITED STATES GOVERNMENT AND ARE LOANED TO YOU BY THE NATIONAL BUREAU OF STANDARDS. IT IS TO BE USED FOR THE PURPOSES FOR WHICH IT WAS LOANED AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM THE NATIONAL BUREAU OF STANDARDS.

REVISIONS		
NO.	DESCRIPTION	DATE
1	INITIAL DESIGN	10/1/68
2	REVISION 1	10/1/68

TITLE		DRAWING NUMBER		REV	
ICL		EJA M8231-00		C	
SCALE 2-1		SHEET 3 OF 3		DATE	
2		10		1	

ICL M8231-00 C

LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
1	1	D-MD-5012818-0-0	5012818-00	M8231	1	
2	2		1012084-01	8 MFD 25V G% 30D AL EL	(10-12	7 C1-C7
3	3		1012784-00	.047 MFD 50V X% CER. \$	92	C8-C99
4	4		1300247-00	120 1/4W 5% CC	(13-00	8 R15-R22
5	5		1300250-00	150 1/4W 5% CC	(13-00	8 R23-R30
6	6		1300295-00	330 1/4W 5% CC	(13-00	7 R1,R3,R5,R6,R7,R11,R13
7	7		1301424-00	680 1/4W 5% CC	(13-00	4 R2,R4,R12,R14
8	8		1301775-00	820 1/4W 5% CC	(13-00	3 R8,R9,R10
9	9		1910532-00	74S00 NAND GATE-QUAD 2IN	6	E57,E58,E110,E115,E122,E128
10	10		1910534-00	74S04 INVFRTER GATE-HEX 1IN	13	E14,E38,E53,E75,E83,E94,E97,
					CONT	E112,E119,E120,E125,E136,E143
11	11		1912389-00	74S08 AND GATE-QUAD 2IN,POS	14	2 E37,E141
12	12		1910536-00	74S10 NAND GATE-TRIPLE 3IN	5	E68,E98,E123,E129,E142
13	13		1910537-00	74S11 AND GATE-TRIPLE 3INPUT	3	E101,E109,E127
14	14		1910539-00	74S20 NAND GATE-DUAL 4INPUT	1	E108
15	15		1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	2	E35,E71
16	16		1911712-00	74S51 AND-OR GATE-INVERT DUAL 2W/2IN	4	E51,E74,E126,E140
17	17		1910542-00	74S64 A-O-I XFDR GATE,4-2-3-2	14	4 E26,E62,E36,E121
18	18		1910544-00	74S74 FF-D DUAL,EDGE TRIGGER	5	E25,E50,E99,E100,E106
19	19		1912089-00	74S85 CMFRTTR-4BIT MAGNITUDE	16P	1 E95
20	20		1910545-00	74S112 FF-JK DUAL,EDGE TRIGGER	2	E13,E113
21	21		1911675-00	74S138 DECODER-THREE INPUT	2	E89,E114
22	22		1911676-00	74S139 DECODER-DUAL TWO-INPUT	1	E96
23	23		1912796-00	74148 EXCODER,PRIORITY,8 TO 3 LINE	4	E32,E49,E73,E88
24	24		1910956-00	74S151 MUX 1 OF 8	17	E1-E7,E15,E28,E29,E31,E44,E45,
					CONT	E46,E54,E55,E135
25	25		1910547-00	74S153 MUX 1 OF 4 (DUAL)	6	E60,E61,E130,E132,E133,E139
26	26		1910548-00	74S157 MUX 1 OF 2 (QUAD)	2	E69,E118
27	27		1910549-00	74S158 MUX 1 OF 2 (QUAD)	7	E64,E90,E92,E105,E111,E116,
					CONT	E117

REVISION HISTORY			VARIATIONS FOR THIS ASSY.		FIRST USED ON:		DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS			
CHK	ECO NO	REV								
PG	00003	C		00	MADE BY: F.MULLIGAN		DATE: 21-APR-78		TITLE	
					CHECKED: F.MULLIGAN		DATE:		ICL	
					DSN.ENG.: S.JENKINS		DATE: 21-APR-78		SIZE CODE	
					PROD.: M.TERILLO		DATE: 21-APR-78		K	PL
					RESP.ENG.: S.JENKINS		DATE: 21-APR-78		ASSY.NO.: E-UA-M8231-0-0	
*THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.										
COPYRIGHT 1978. DIGITAL EQUIPMENT CORPORATION										

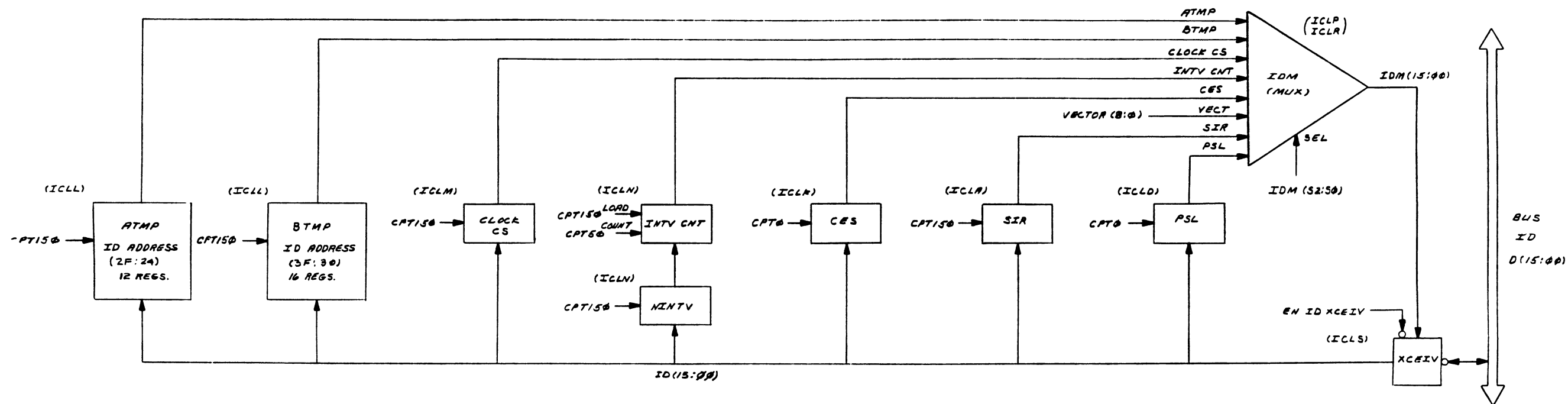
LINE	ITEM	DOCUMENT NO.	PART NO.	DESCRIPTION	QTY	REFERENCE DESIGNATORS
28	28		1910550-00	74S174 FF-D HEX	4	E8,E11,E22,E91
29	29		1910957-00	74S175 FF-D QUAD COMMON CLOCK	13	E16,E21,E33,E47,E67,E72,E85,
					CONT	E87,E93,E102,E103,E104,E124
30	30		1910552-00	74S194 SHIFT REG.,4BIT RIGHT/LEFT	5	E48,E56,E59,E65,E81
31	31		1913839-00	74LS165 SHIFT REG.,8BIT \$	8	E27,E78,E80,E82,E84,E131,E134,
					CONT	E137
32	32		1912586-00	85S68 REGISTER,64BIT EDGE TRIG,TRIST	8	E17-E20,E30,E42,E43,E66
33	33		1913294-00	93S16 COUNTER,SYNCH UP BINARY	5	E9,E10,E12,E23,E24
34	34		1911415-00	10125 ECL TO TTL TRNSLTR ECL 16 P	2	E52,E63
35	35		1913788-00	26S10 TRANSCEIVER,BUS,QUAD	4	E39,E40,E41,E76
36	36		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,UNIBUS,Q-BU	1	E77
37	37		23022B1-00	B1-01	1	E70
38	38		1210711-02	HANDLE ASSY,MOD DOEHLER-JARVIS	1	
39	39		9000024-01	EYELET, ROLLED FLANGE, .121 OD X .196 LG	12	

40 NOTE: I C SPARE LOCATIONS ARE E34,E79,E86,E107,E138

! DIGITAL EQUIPMENT CORPORATION !	! TITLE !	! ICL !	! PARTS LIST !	! SIZE !	! CODE !	! DOCUMENT NUMBER !	! REV !
! MAYNARD, MASSACHUSETTS !	!	!	!	! K !	! PL !	! M8231-0-DBP !	! C !

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION

LOW BITS BLOCK DIAGRAM

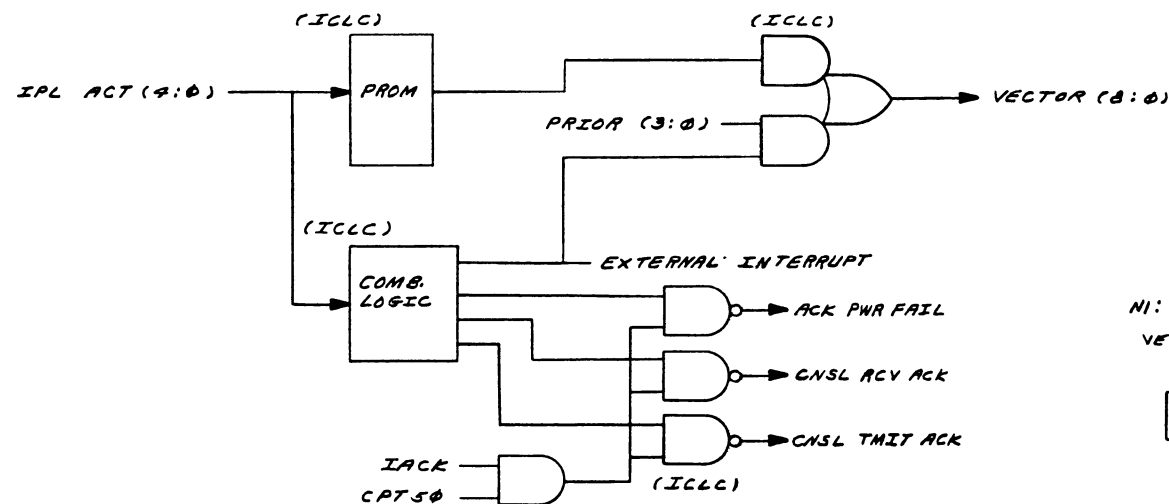
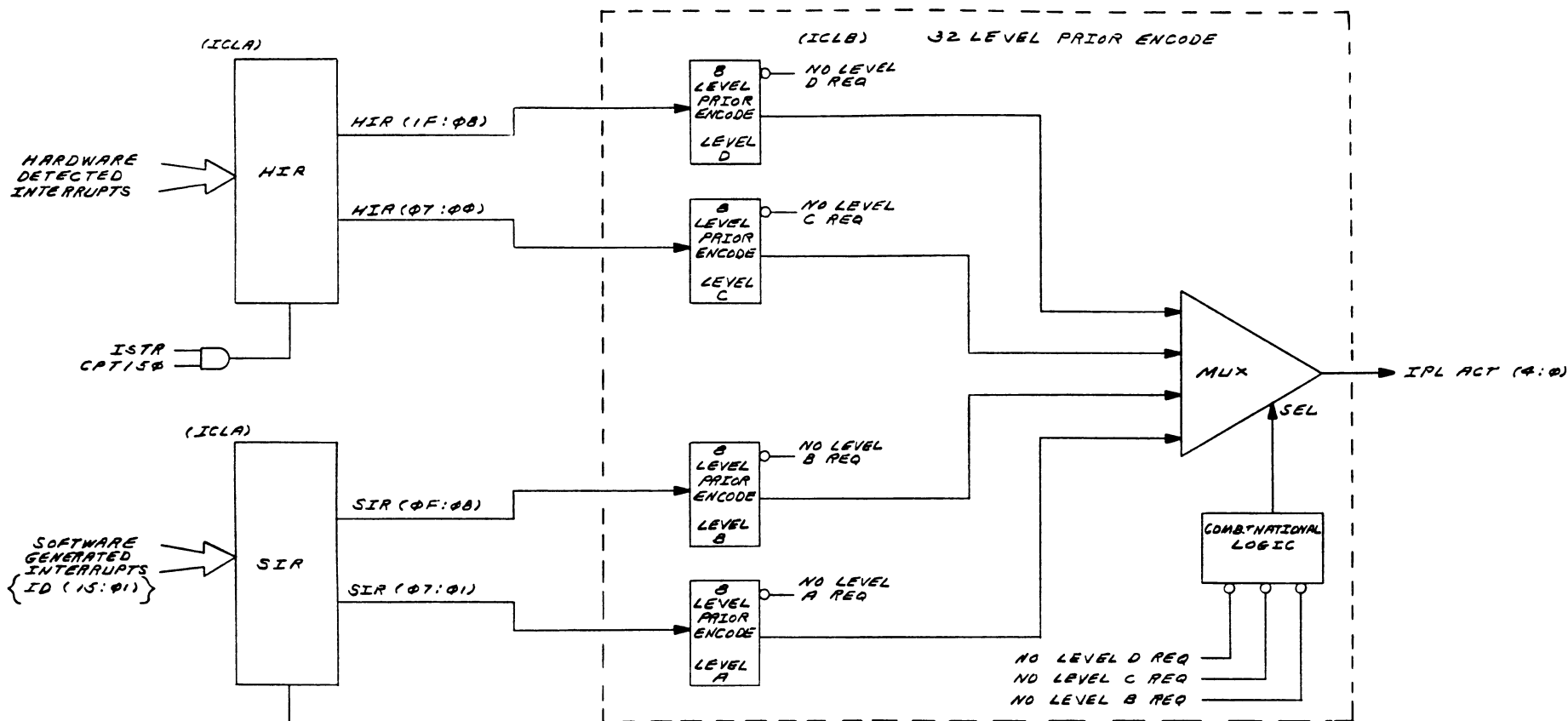


(REGISTER BLOCK DIAGRAM)

DRN. by <i>Bar</i>	5-12-77	FIRST USED ON	<i>digital</i>
CHK'D <i>Bar</i>	5-22-77	TITLE	INTERRUPT CONTROL AND LOW BITS (ICL)
ENG. <i>Bar</i>	5-22-77	SIZE CODE	D CS
PROJ. ENG. <i>Bar</i>	5-22-77	NUMBER	M8231-0-1
PROD. <i>Bar</i>	6-2-77	REV.	C
NEXT HIGHER ASSY.		DIST.	
SCALE	1 OF 21		
SHEET			

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

INTERRUPT ARBITRATION



NI: EXTERNAL DEVICE INTERRUPT (SBI BUS)
VECTOR GENERATION

8	7	6	5	4	3	2	1	0
1	REQ	TRNG	0	0				
	LEVEL							
	LEV. 4	00						
	LEV. 5	01						
	LEV. 6	10						
	LEV. 7	11						

INTERRUPT PRIORITY & VECTORS

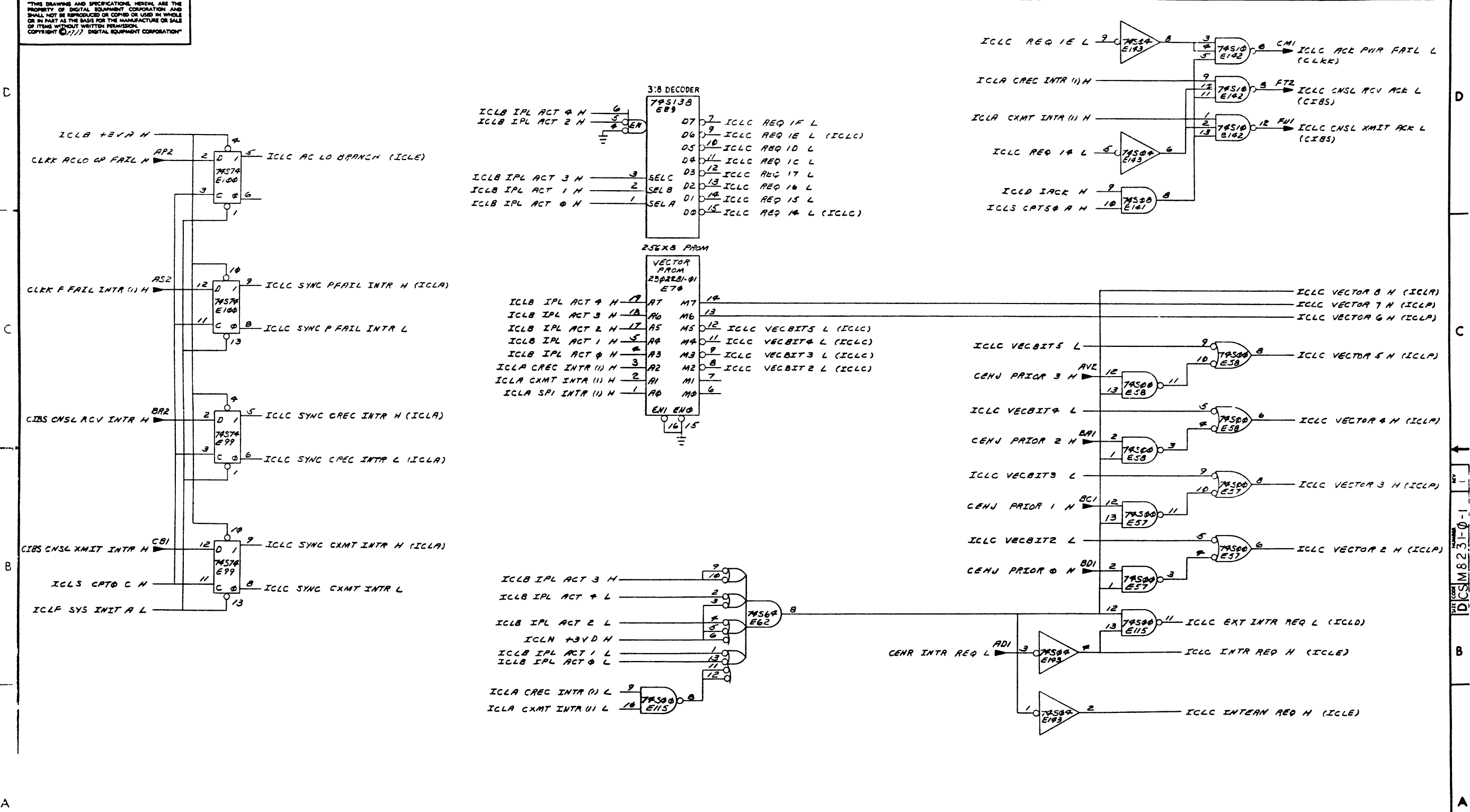
IPL ACT	INTERRUPT CONDITION	VECTOR	PRIORITY
1F	NONE ASSIGNED	X	HIGHEST
1E	CPU POWER FAIL	0C	
1D	CPU TIMEOUT	60	
1C	SBI FAULT	5C	
1B	SBI ALERT	5B	
1A	CARD RDS	54	
19	SBI SILO COMPARE	50	
18	INTERVAL TIMER	C0	
17	SBI REQ 7 (NI)	1C0 TO 1FC	
16	SBI REQ 6 (NI)	180 TO 1BC	
15	SBI REQ 5 (NI)	140 TO 17C	
14	SBI REQ 4 (NI)	100 TO 13C	
	CNSL RECEIVE INTR	F0	
	CNSL TRANSMIT INTR	FC	
13	NONE ASSIGNED	X	
12	NONE ASSIGNED	X	
11	NONE ASSIGNED	X	
10	NONE ASSIGNED	X	
0F	SIR0F	BC	
0E	SIR0E	BB	
0D	SIR0D	B4	
0C	SIR0C	B0	
0B	SIR0B	AC	
0A	SIR0A	AB	
09	SIR09	A4	
08	SIR08	A0	
07	SIR07	9C	
06	SIR06	9B	
05	SIR05	94	
04	SIR04	90	
03	SIR03	8C	
02	SIR02 OR AST DEL	60	
01	SIR01	84	
00	NO INTERRUPT	X	LOWEST

(INTERRUPTS BLOCK DIAGRAM)

TITLE	SIZE CODE	NUMBER	REV.
INTERRUPT CONTROL AND LOW BITS (ICL)	DCS	M8231-0-1	C
SCALE	SHEET	2 OF 21	DIST.

(SOFTWARE & HARDWARE INTERRUPT REQUEST REGS (SIR&HIR)) (SLOT 15)

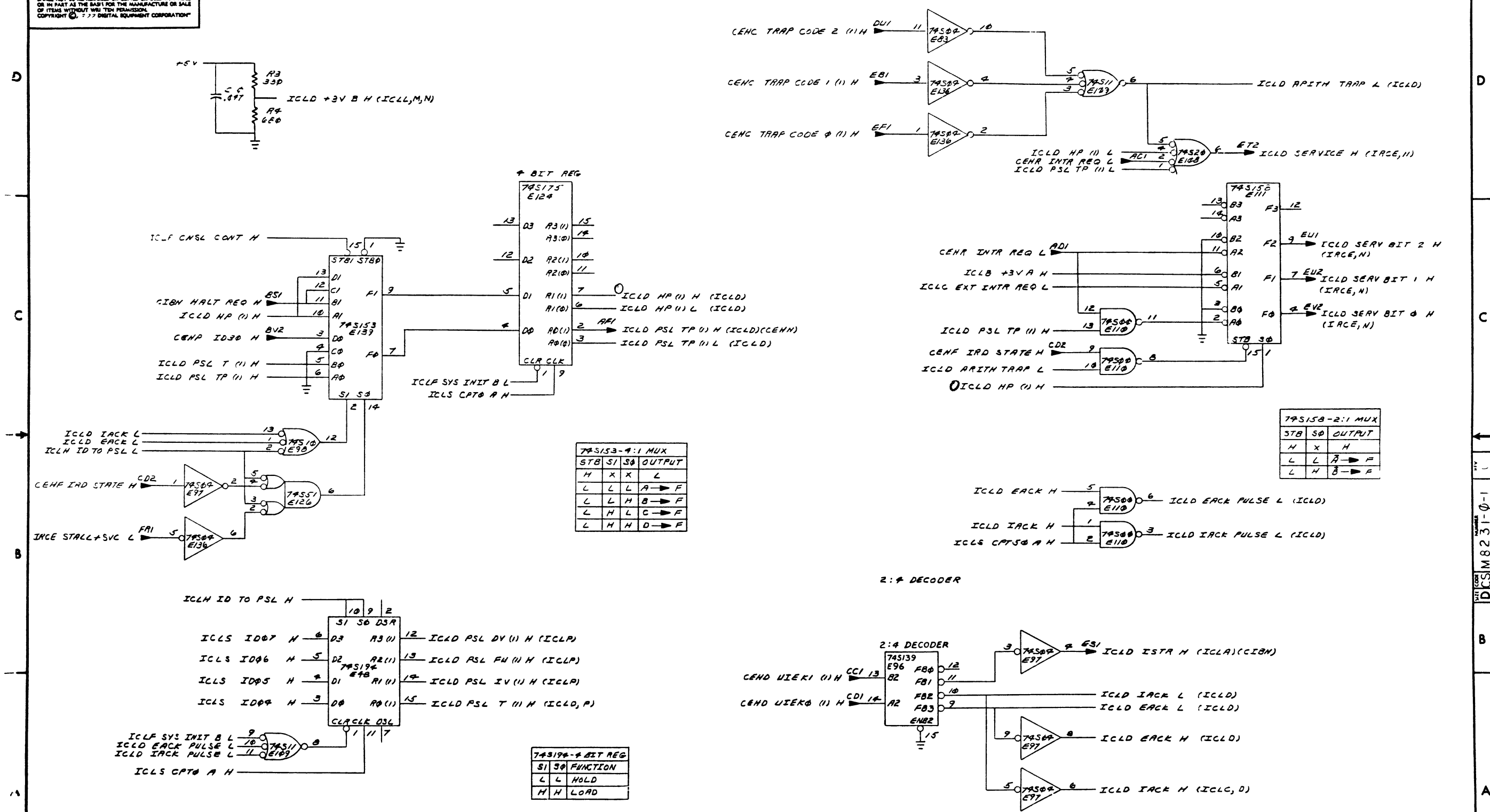
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV

(INTERRUPT ACKNOWLEDGES & VECTOR GENERATION) (SLOT 15)

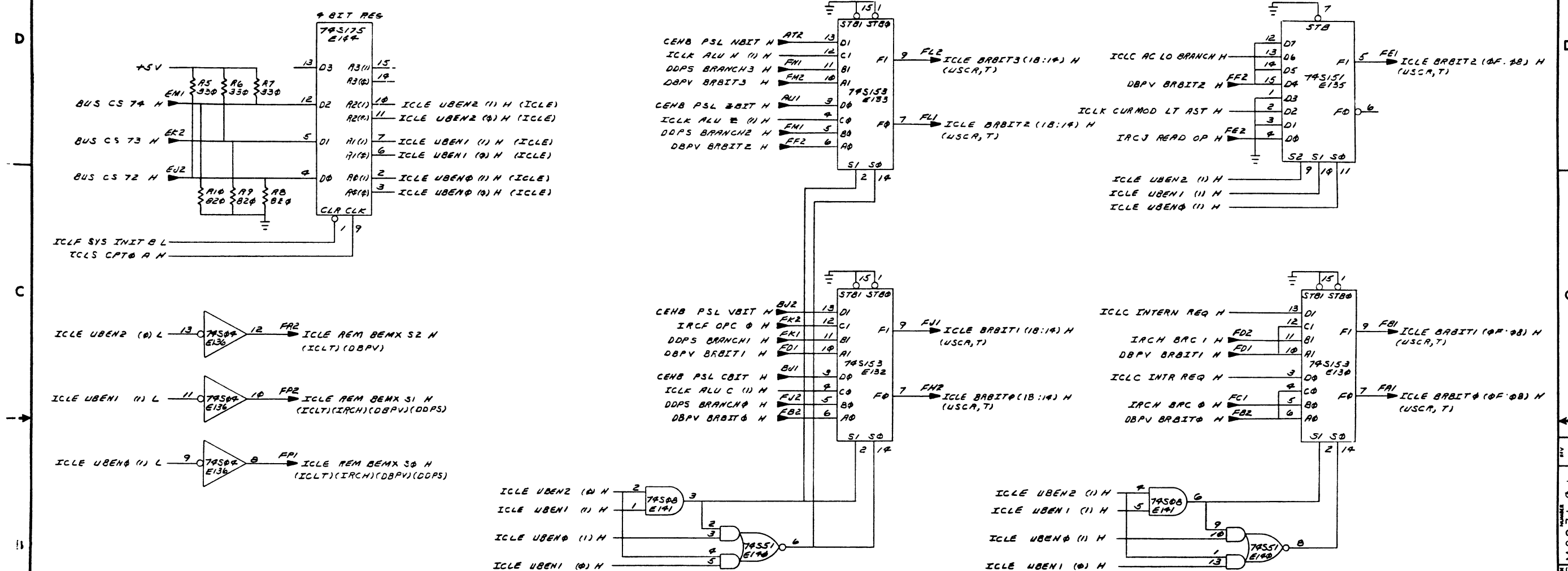
TITLE		SIZE	CODE	NUMBER	REV.
INTERRUPT CONTROL AND LOW BITS (ICLC)		D	CS	M8231-0-1	C
SCALE		SHEET		DIST.	
1		2		3	



79S15B-2:1 MUX		
STB	S0	OUTPUT
H	X	H
L	L	$\bar{A} \rightarrow F$
L	H	$\bar{B} \rightarrow F$

74S153-4:1 MUX			
STB	S1	S0	OUTPUT
H	X	X	L
L	L	L	A → F
L	L	H	B → F
L	H	L	C → F
L	H	H	D → F

743194-4 BIT REG		
SI	SO	FUNCTION
L	L	HOLD
H	H	LOAD



DEN (18:14) MUXES

79S153-4:1 MUX				BEN SELECTED
57B	SI	SD	OUTPUT	
H	X	X	L	X
L	L	L	A → F	19, 18
L	L	H	B → F	17, 14
L	H	L	C → F	18
L	H	H	D → F	1A

BEN ($\phi F : \phi \theta$) MUXES

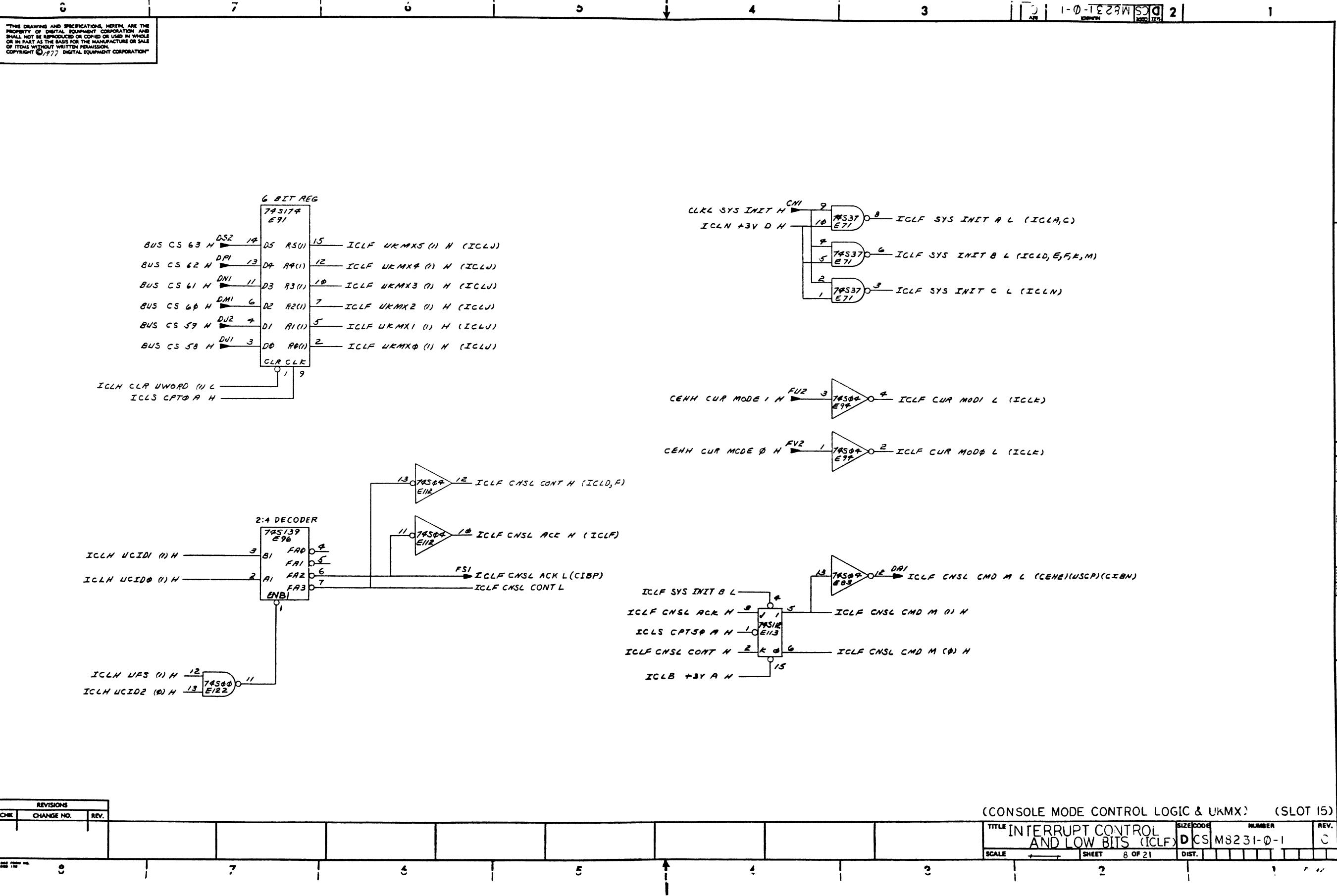
74S153-4:1 MUX				BEN SELECTED
STB	SI	SO	OUTPUT	
H	X	X	L	X
L	L	L	A → F	ΦD, ΦC
L	L	H	B → F	ΦB : ΦB
L	H	L	C → F	ΦF
L	H	H	D → F	ΦF

74615-21-1114

74S151-B:1 MUX					BEN SELECTED
STB	S2	S1	S0	OUTPUT	
H	X	X	X	F1=L	X
L	L	L	L	D0 → F1	00
L	L	L	H	D1 → F1	01
L	L	H	L	D2 → F1	02
L	L	H	H	D3 → F1	03
L	H	L	L	D4 → F1	04
L	H	L	H	D5 → F1	05
L	H	H	L	D6 → F1	06
L	H	H	H	D7 → F1	07

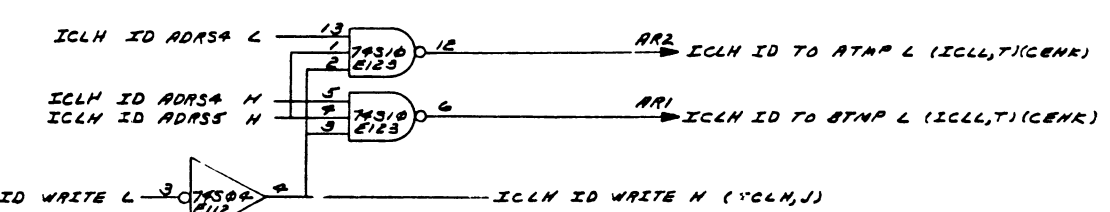
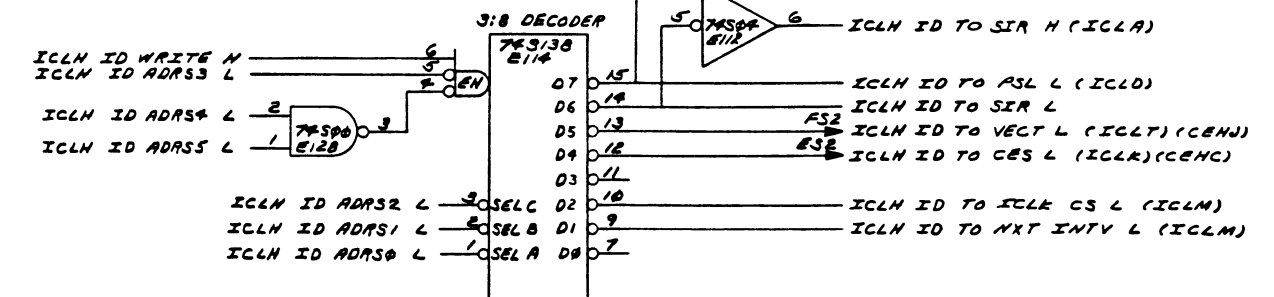
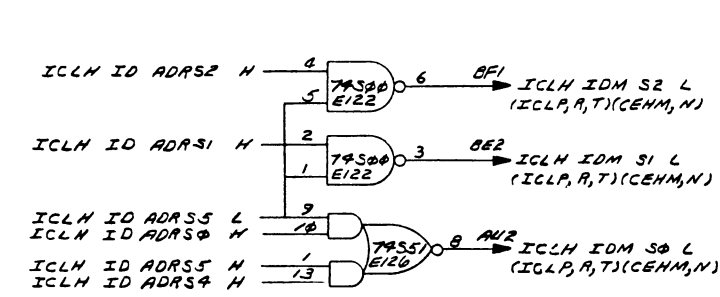
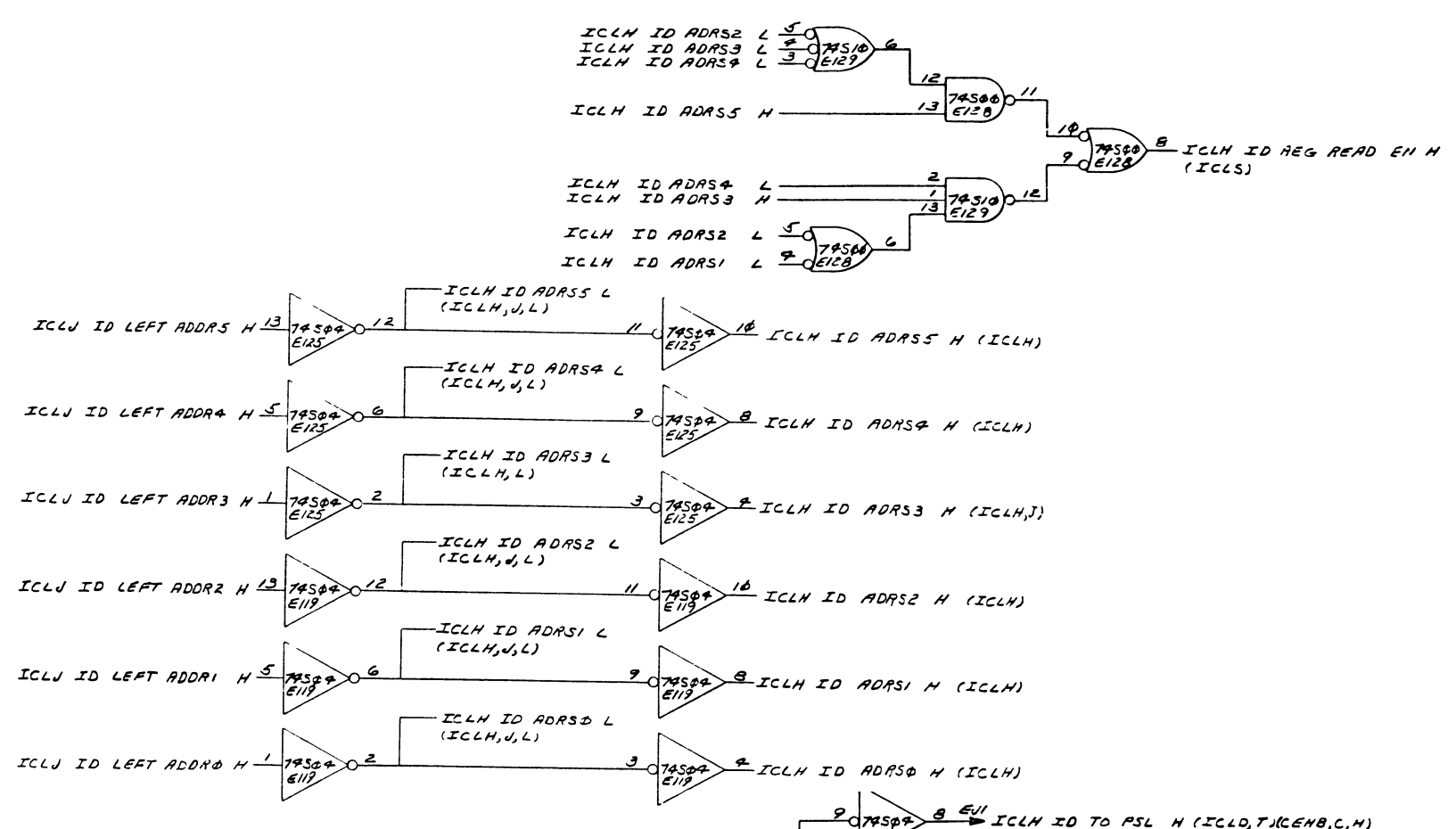
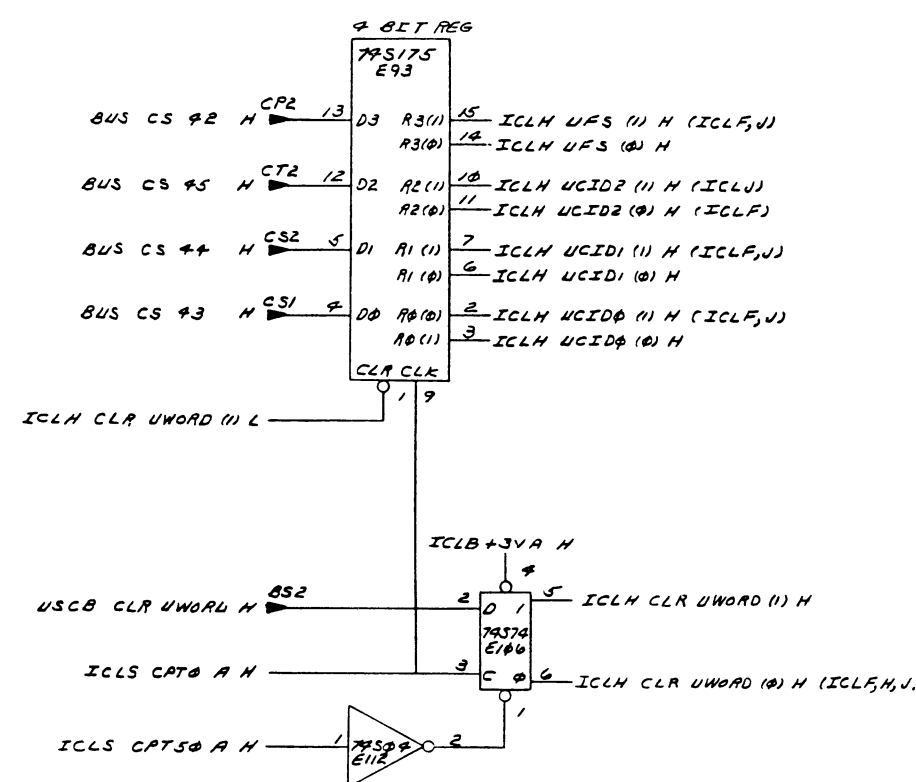
(UBEN & UBRANCH MULTIPLEXORS) (SLOT 15)

TITLE		INTERRUPT CONTROL AND LOW BITS (ICLE)		SIZE	CODE	NUMBER		REV
				D	CS	M8231-0-1		0
SCALE	→	SHEET	7 OF 21	DIST.				



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

1-0-1828W 2



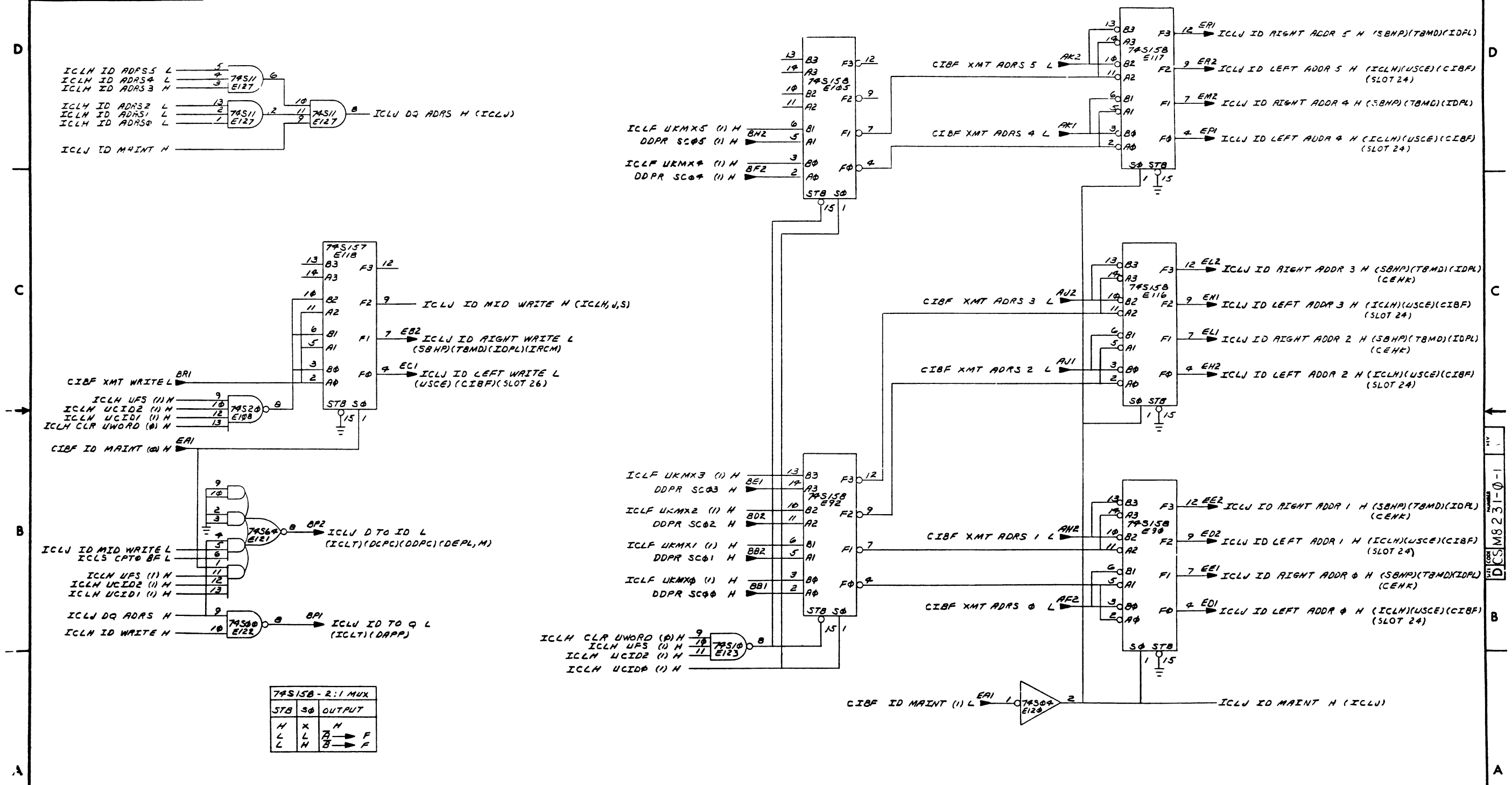
(ID ADDRESS DECODE, UFS & UCID) (SLOT 15)

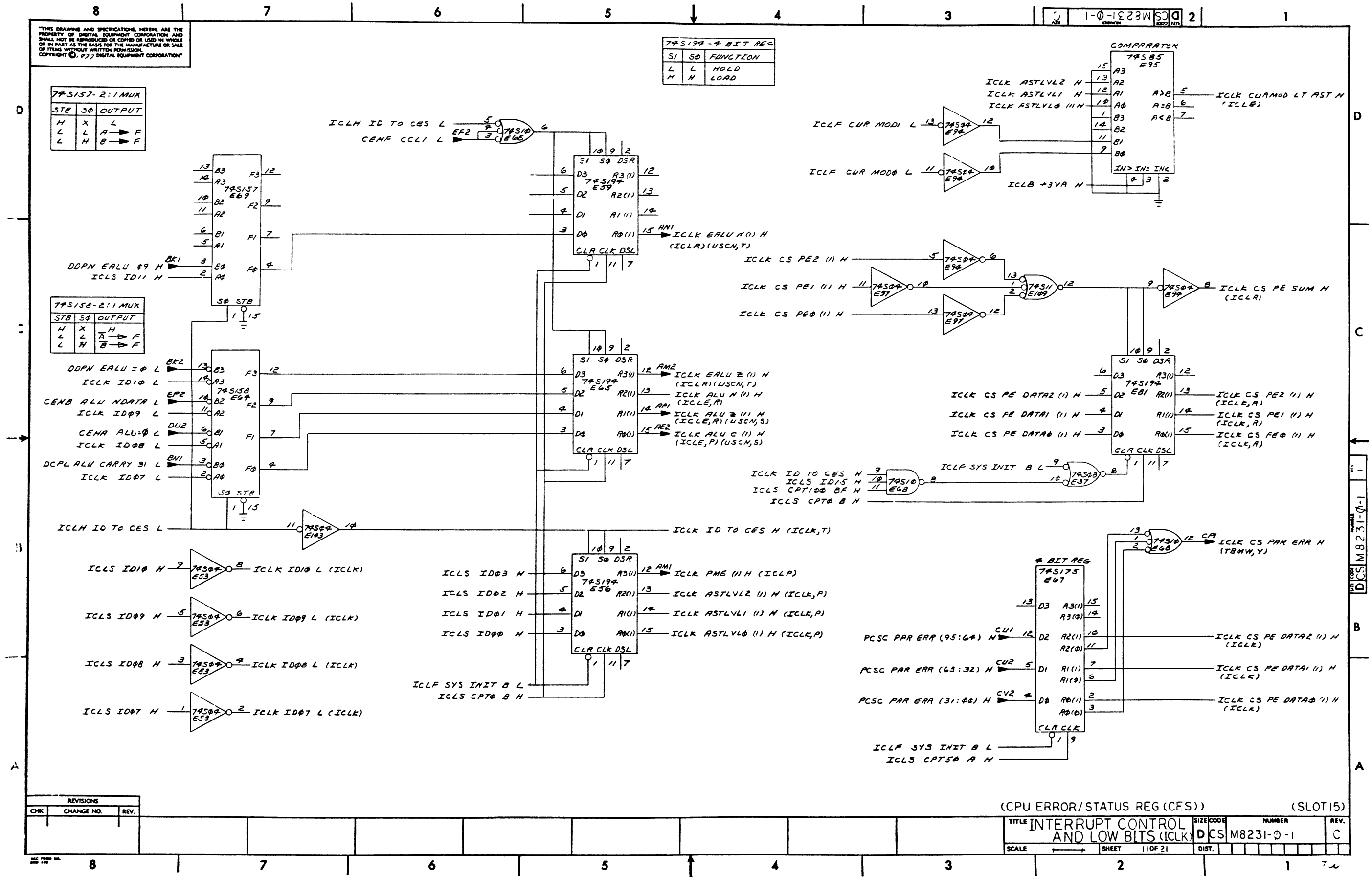
REV.	CHANGE NO.	CHK

TITLE	SIZE CODE	NUMBER	REV.
INTERRUPT CONTROL AND LOW BITS (ICLU)	DCS	M8231-0-1	C
SCALE	SHEET	9 OF 21	DIST.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

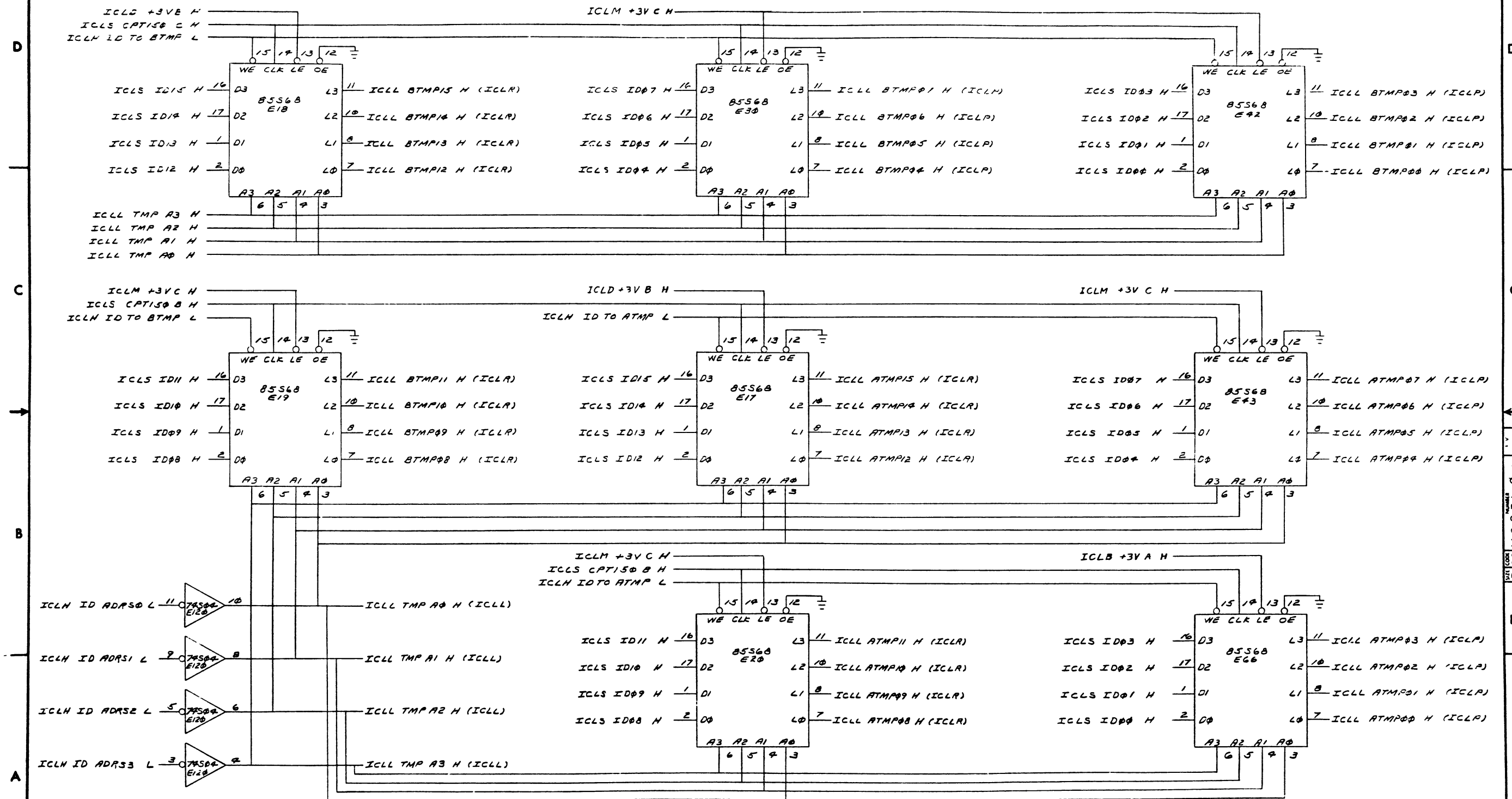
1-0-1E24W 2





THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

8556A-16X4 EDGE
TRIGGERED REG

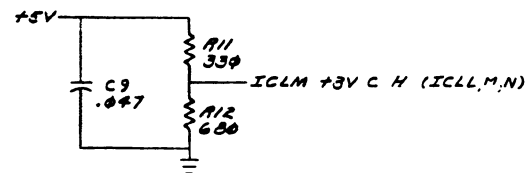


(ID REGISTERS (24 TO 2F) LOW BITS) (SLOT 15)

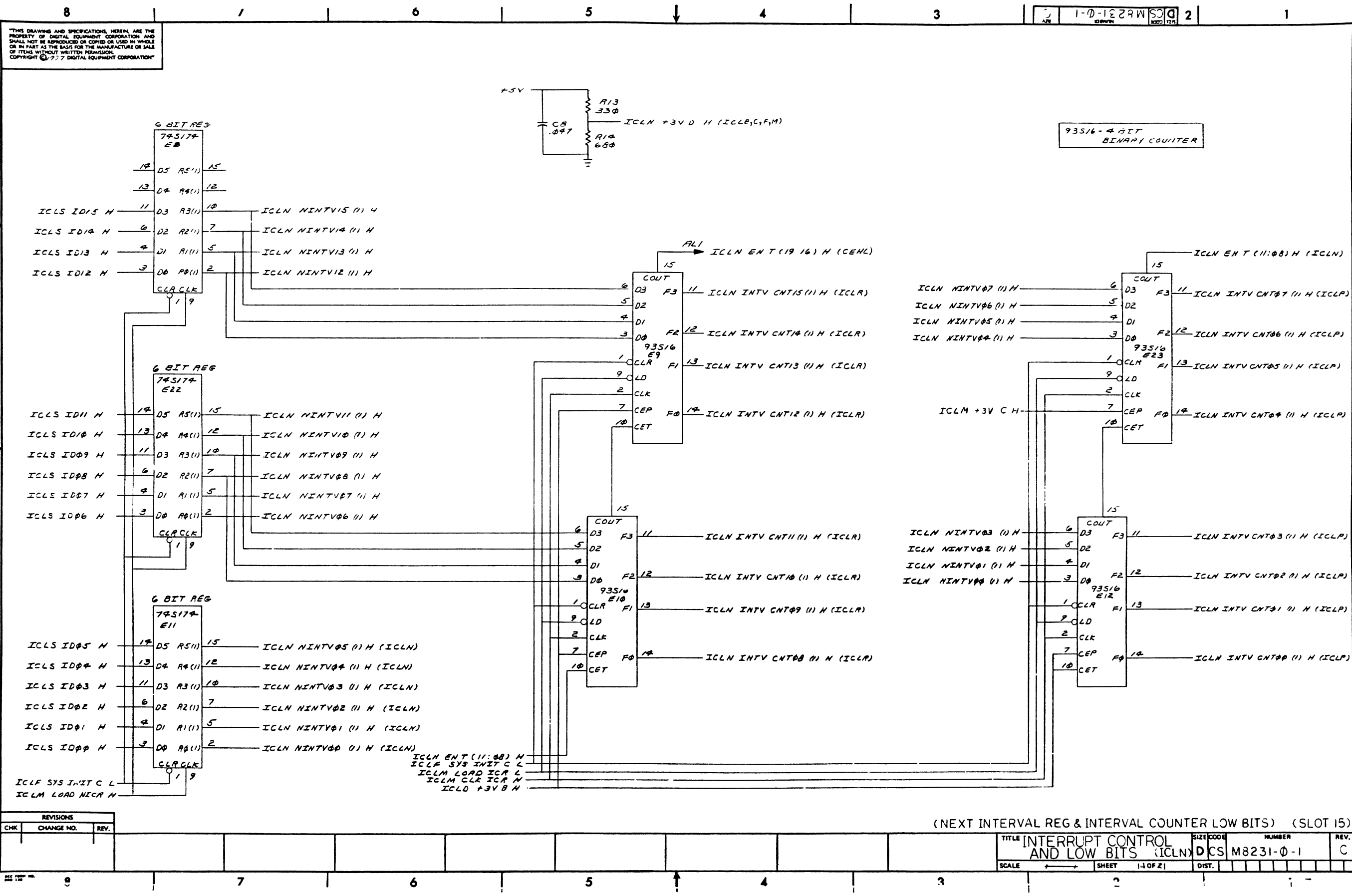
CHK	CHANGE NO.	REV.

TITLE	SIZE CODE	NUMBER	REV.
INTERRUPT CONTROL AND LOW BITS (ICLL)	D	CS M8231-0-1	C
SCALE	SHEET	12 OF 21	DIST.

2 | DCS | M8231-0-1 | 1



TITLE		INTERRUPT CONTROL AND LOW BITS (ICLM)		SIZE	CODE	NUMBER		REV.
				D	CS	M8231-0-1		0
SCALE	→	SHEET	13 OF 21	DIST.				

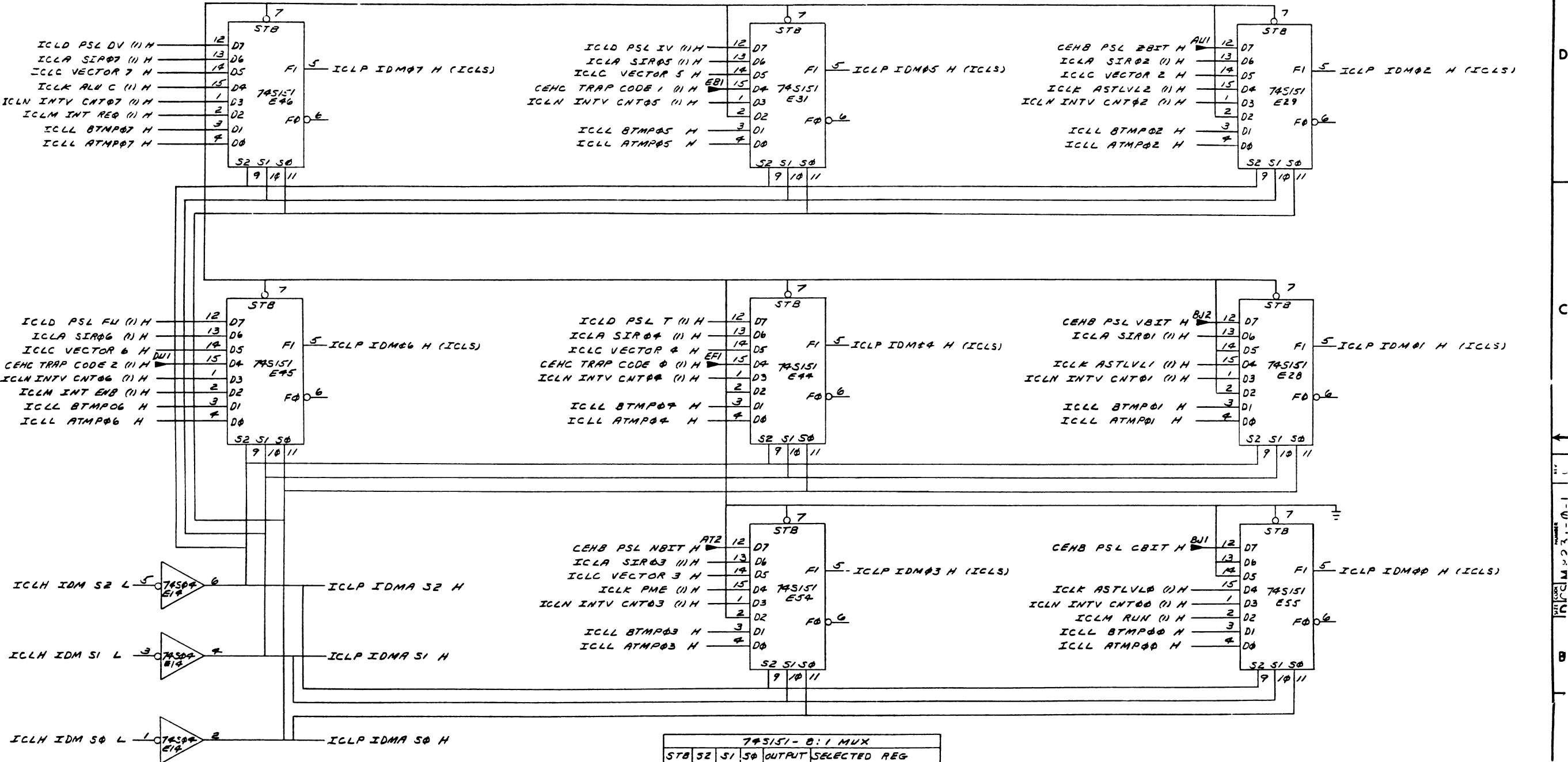


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		INTERRUPT CONTROL AND LOW BITS (ICLN)		SIZE	CODE	NUMBER		REV.
SCALE		SHEET		1 OF 21		DIST.		C

THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © DIGITAL EQUIPMENT CORPORATION

1-0-1E28W SCS 2



74S151 - 8:1 MUX					
STB	52	51	50	OUTPUT	SELECTED REG
H	X	X	X	F1 = L	X
L	L	L	L	D0 → F1	ATMP
L	L	L	H	D1 → F1	BTMP
L	L	H	L	D2 → F1	CLOCK CS
L	L	H	H	D3 → F1	INTERVAL COUNTER
L	H	L	L	D4 → F1	CS
L	H	L	H	D5 → F1	VECTOR
L	H	H	L	D6 → F1	SIR
L	H	H	H	D7 → F1	PSL

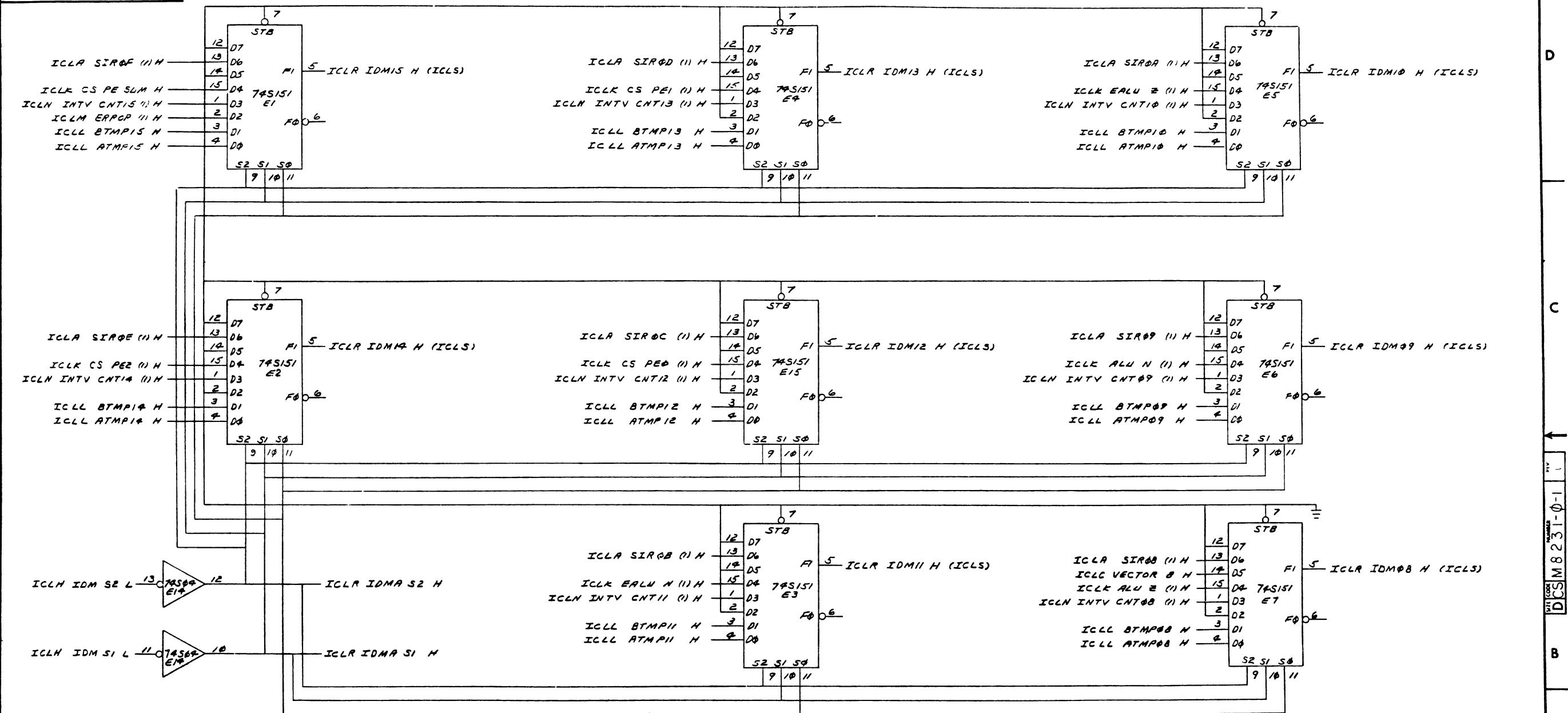
REVISIONS		
CHK	CHANGE NO.	REV

(ID DATA MULTIPLEXOR (IDM) BITS 07:00) (SLOT 15)

TITLE	SIZE CODE	NUMBER	REV.
INTERRUPT CONTROL AND LOW BITS (ICLP)	DCS	M8231-0-1	0
SCALE	SHEET	15 OF 21	DIST.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

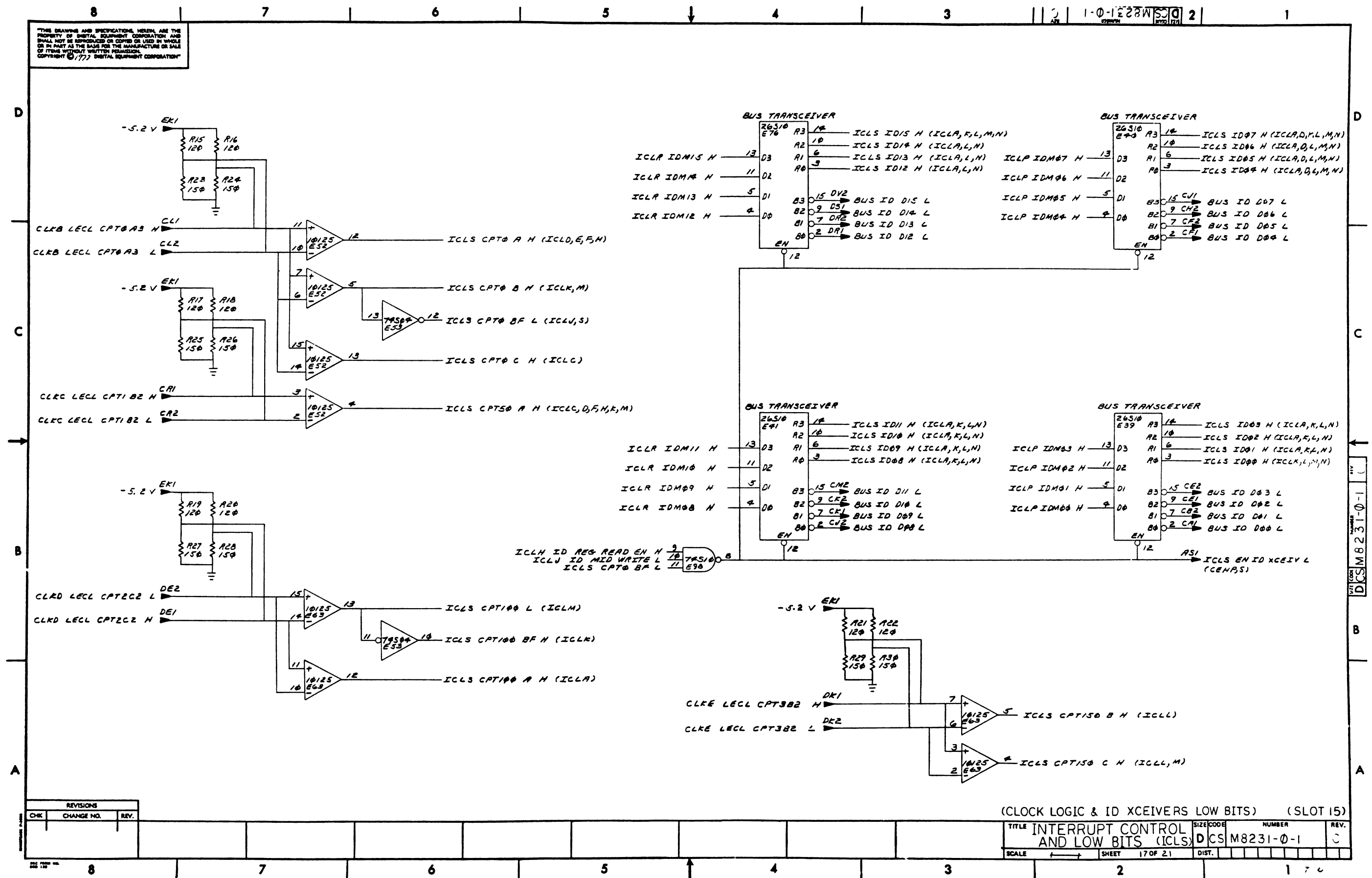
1-0-1 E28W SCS 2



74S151 - 8:1 MUX					
STB	S2	S1	S0	OUTPUT	SELECTED REG
H	X	X	X	F1=L	X
L	L	L	L	D0	ATMP
L	L	L	M	D1	BTMP
L	L	L	N	D2	CLOCK CS
L	L	L	N	D3	INTERVAL COUNTER
L	L	L	N	D4	CES
L	L	L	N	D5	VECTOR
L	L	L	N	D6	SIR
L	L	L	N	D7	PSL

REVISIONS		
CHK	CHANGE NO.	REV.

(ID DATA MULTIPLEXOR (IDM) BITS 15:08) (SLOT 15)		TITLE INTERRUPT CONTROL AND LOW BITS (ICLR)		SIZE CODE DCS	NUMBER M8231-0-1	REV. C
SCALE	SHEET 16 OF 21	DIST.				



79LS165-8 BIT
SHIFT REG



A horizontal number line with tick marks labeled 8, 7, 6, 5, 4, 3, 2, and 1 from left to right. An arrow points to the tick mark for 5.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

VECTOR FROM - (2382281-01)

1-0-1829W DCS M8231-0-1

2

1

D

C

B

A

REV. 1
DCS M8231-0-1

PROM ADDR	IPL ACT	PROM DATA								VECTOR
		M7	M6	M5	M4	M3	M2	M1	M0	
00	00	L	L	H	H	H	H	L	L	X
01										
02										
03										
04										
05										
06										
07										
08	01	H	L	H	H	H	L	L	L	04
09										
0A										
0B										
0C										
0D										
0E										
0F										
10	02	H	L	H	H	L	H	L	L	08
11										
12										
13										
14										
15										
16										
17										
18	03	H	L	H	H	L	L	L	L	0C
19										
1A										
1B										
1C										
1D										
1E										
1F										

PROM ADDR	IPL ACT	PROM DATA								VECTOR
		M7	M6	M5	M4	M3	M2	M1	M0	
20	04	H	L	H	L	H	H	L	L	90
21										
22										
23										
24										
25										
26										
27										
28	05	H	L	H	L	H	L	L	L	94
29										
2A										
2B										
2C										
2D										
2E										
2F										
30	06	H	L	H	L	L	H	L	L	98
31										
32										
33										
34										
35										
36										
37										
38	07	H	L	H	L	L	L	L	L	9C
39										
3A										
3B										
3C										
3D										
3E										
3F										

PROM ADDR	IPL ACT	PROM DATA								VECTOR
		M7	M6	M5	M4	M3	M2	M1	M0	
40	08	H	L	L	H	H	H	L	L	A0
41										
42										
43										
44										
45										
46										
47										
48	09	H	L	L	H	H	L	L	L	A4
49										
4A										
4B										
4C										
4D										
4E										
4F										
50	0A	H	L	L	H	L	H	L	L	A8
51										
52										
53										
54										
55										
56										
57										
58	0B	H	L	L	H	L	L	L	L	AC
59										
5A										
5B										
5C										
5D										
5E										
5F										

PROM ADDR	IPL ACT	PROM DATA								VECTOR
		M7	M6	M5	M4	M3	M2	M1	M0	
60	0C	H	L	L	L	H	H	L	L	B0
61										
62										
63										
64										
65										
66										
67										
68	0D	H	L	L	L	H	L	L	L	B4
69										
6A										
6B										
6C										
6D										
6E										
6F										
70	0E	H	L	L	L	L	H	L	L	B8
71										
72										
73										
74										
75										
76										
77										
78	0F	H	L	L	L	L	L	L	L	BC
79										
7A										
7B										
7C										
7D										
7E										
7F										

REVISIONS		
CHK	CHANGE NO.	REV.

(VECTOR FROM TRUTH TABLE)

TITLE		SIZE	CODE	NUMBER		REV.
INTERRUPT CONTROL AND LOW BITS (ICL)		DCS		M8231-0-1		C
SCALE		SHEET	19 OF 27	DIST.		

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1971 DIGITAL EQUIPMENT CORPORATION

VECTOR PROM - (2302281-01)

D

C

B

A

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000
1001
1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1012
1013
1014
1015
1016
1017
1018
1019
1020
1021
1022
1023
1024
1025
1026
1027
1028
1029
1030
1031
1032
1033
1034
1035
1036
1037
1038
1039
1040
1041
1042
1043
1044
1045
1046
1047
1048
1049
1050
1051
1052
1053
1054
1055
1056
1057
1058
1059
1060
1061
1062
1063
1064
1065
1066
1067
1068
1069
1070
1071
1072
1073
1074
1075
1076
1077
1078
1079
1080
1081
1082
1083
1084
1085
1086
1087
1088
1089
1090
1091
1092
1093
1094
1095
1096
1097
1098
1099
1100
1101
1102
1103
1104
1105
1106
1107
1108
1109
1110
1111
1112
1113
1114
1115
1116
1117
1118
1119
1120
1121
1122
1123
1124
1125
1126
1127
1128
1129
1130
1131
1132
1133
1134
1135
1136
1137
1138
1139
1140
1141
1142
1143
1144
1145
1146
1147
1148
1149
1150
1151
1152
1153
1154
1155
1156
1157
1158
1159
1160
1161
1162
1163
1164
1165
1166
1167
1168
1169
1170
1171
1172
1173
1174
1175
1176
1177
1178
1179
1180
1181
1182
1183
1184
1185
1186
1187
1188
1189
1190
1191
1192
1193
1194
1195
1196
1197
1198
1199
1200
1201
1202
1203
1204
1205
1206
1207
1208
1209
1210
1211
1212
1213
1214
1215
1216
1217
1218
1219
1220
1221
1222
1223
1224
1225
1226
1227
1228
1229
1230
1231
1232
1233
1234
1235
1236
1237
1238
1239
1240
1241
1242
1243
1244
1245
1246
1247
1248
1249
1250
1251
1252
1253
1254
1255
1256
1257
1258
1259
1260
1261
1262
1263
1264
1265
1266
1267
1268
1269
1270
1271
1272
1273
1274
1275
1276
1277
1278
1279
1280
1281
1282
1283
1284
1285
1286
1287
1288
1289
1290
1291
1292
1293
1294
1295
1296
1297
1298
1299
1300
1301
1302
1303
1304
1305
1306
1307
1308
1309
1310
1311
1312
1313
1314
1315
1316
1317
1318
1319
1320
1321
1322
1323
1324
1325
1326
1327
1328
1329
1330
1331
1332
1333
1334
1335
1336
1337
1338
1339
1340
1341
1342
1343
1344
1345
1346
1347
1348
1349
1350
1351
1352
1353
1354
1355
1356
1357
1358
1359
1360
1361
1362
1363
1364
1365
1366
1367
1368
1369
1370
1371
1372
1373
1374
1375
1376
1377
1378
1379
1380
1381
1382
1383
1384
1385
1386
1387
1388
1389
1390
1391
1392
1393
1394
1395
1396
1397
1398
1399
1400
1401
1402
1403
1404
1405
1406
1407
1408
1409
1410
1411
1412
1413
1414
1415
1416
1417
1418
1419
1420
1421
1422
1423
1424
1425
1426
1427
1428
1429
1430
1431
1432
1433
1434
1435
1436
1437
1438
1439
1440
1441
1442
1443
1444
1445
1446
1447
1448
1449
1450
1451
1452
1453
1454
1455
1456
1457
1458
1459
1460
1461
1462
1463
1464
1465
1466
1467
1468
1469
1470
1471
1472
1473
1474
1475
1476
1477
1478
1479
1480
1481
1482
1483
1484
1485
1486
1487
1488
1489
1490
1491
1492
1493
1494
1495
1496
1497
1498
1499
1500
1501
1502
1503
1504
1505
1506
1507
1508
1509
1510
1511
1512
1513
1514
1515
1516
1517
1518
1519
1520
1521
1522
1523
1524
1525
1526
1527
1528
1529
1530
1531
1532
1533
1534
1535
1536
1537
1538
1539
1540
1541
1542
1543
1544
1545
1546
1547
1548
1549
1550
1551
1552
1553
1554
1555
1556
1557
1558
1559
1560
1561
1562
1563
1564
1565
1566
1567
1568
1569
1570
1571
1572
1573
1574
1575
1576
1577
1578
1579
1580
1581
1582
1583
1584
1585
1586
1587
1588
1589
1590
1591
1592
1593
1594
1595
1596
1597
1598
1599
1600
1601
1602
1603
1604
1605
1606
1607
1608
1609
1610
1611
1612
1613
1614
1615
1616
1617
1618
1619
1620
1621
1622
1623
1624
1625
1626
1627
1628
1629
1630
1631
1632
1633
1634
1635
1636
1637
1638
1639
1640
1641
1642
1643
1644
1645
1646
1647
1648
1649
1650
1651
1652
1653
1654
1655
1656
1657
1658
1659
1660
1661
1662
1663
1664
1665
1666
1667
1668
1669
1670
1671
1672
1673
1674
1675
1676
1677
1678
1679
1680
1681
1682
1683
1684
1685
1686
1687
1688
1689
1690
1691
1692
1693
1694
1695
1696
1697
1698
1699
1700
1701
1702
1703
1704
1705
1706
1707
1708
1709
1710
1711
1712
1713
1714
1715
1716
1717
1718
1719
1720
1721
1722
1723
1724
1725
1726
1727
1728
1729
1730
1731
1732
1733
1734
1735
1736
1737
1738
1739
1740
1741
1742
1743
1744
1745
1746
1747
1748
1749
1750
1751
1752
1753
1754
1755
1756
1757
1758
1759
1760
1761
1762
1763
1764
1765
1766
1767
1768
1769
1770
1771
1772
1773
1774
1775
1776
1777
1778
1779
1780
1781
1782
1783
1784
1785
1786
1787
1788
1789
1790
1791
1792
1793
1794
1795
1796
1797
1798
1799
1800
1801
1802
1803
1804
1805
1806
1807
1808
1809
1810
1811
1812
1813
1814
1815
1816
1817
1818
1819
1820
1821
1822
1823
1824
1825
1826
1827
1828
1829
1830
1831
1832
1833
1834
1835
1836
1837
1838
1839
1840
1841
1842
1843
1844
1845
1846
1847
1848
1849
1850
1851
1852
1853
1854
1855
1856
1857
1858
1859
1860
1861
1862
1863
1864
1865
1866
1867
1868
1869
1870
1871
1872
1873
1874
1875
1876
1877
1878
1879
1880
1881
1882
1883
1884
1885
1886
1887
1888
1889
1890
1891
1892
1893
1894
1895
1896
1897
1898
1899
1900
1901
1902
1903
1904
1905
1906
1907
1908
1909
1910
1911
1912
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
2036
2037
2038
2039
2040
2041
2042
2043
2044
2045
2046
2047
2048
2049
2050
2051
2052
2053
2054
2055
2056
2057
2058
2059
2060
2061
2062
2063
2064
2065
2066
2067
2068
2069
2070
2071
2072
2073
2074
2075
2076
2077
2078
2079
2080
2081
2082
2083
2084
2085
2086
2087
2088
2089
2090
2091
2092
2093
2094
2095
2096
2097
2098
2099
2100
2101
2102
2103
2104
2105
2106
2107
2108
2109
2110
2111
2112
2113
2114
2115
2116
2117
2118
2119
2120
2121
2122
2123
2124
2125
2126
2127
2128
2129
2130
2131
2132
2133
2134
2135
2136
2137
2138
2139
2140
2141
2142
2143
2144
2145
2146
2147
2148
2149
2150
2151
2152
2153
2154
2155
2156
2157
2158
2159
2160
2161
2162
2163
2164
2165
2166
2167
2168
2169
2170
2171
2172
2173
2174
2175
2176
2177
2178
2179
2180
2181
2182
2183
2184
2185
2186
2187
2188
2189
2190
2191
2192
2193
2194
2195
2196
2197
219

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF IT, AS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

DECODING LOGIC DESCRIPTION

(ICLD) HALT PENDING & TRACE TRAP PENDING

FUNCTION	HP LOAD COND	TP LOAD COND
ID TO PSL	HP	ID30
IACK	HALT REQ	0
EACK	HALT REQ	0
CNSL CONT	0	PSL TP
DO NEXT INSTRUCTION (IPD STATE * STALL * SVC)	HALT REQ	PSL T

(ICLD) A FORK PRIORITY

CONDITION	SERV BIT CODE	PPRIOR
ARITHMETIC TRAP	7	HIGHEST ↑
HALT PENDING (HP)	5	
INTEERRUPT REQ*EXT DEV (NI)	6	
INTEERRUPT REQ*INT COND (NI)	4	
TRACE TRAP PENDING (TP)	1	↓ LOWEST
IDUF STALL	0	
IBUF ERROR	0	
NEXT INSTRUCTION	0	

NI - MUTUALLY EXCLUSIVE

(ICLF)
(ICLH)
(ICLJ)

UNWORD CONSOLE & ID BUS CONTROL

UFS	UCID	FUNCTIONS	
0	X	NO-OP	
1	0	NO-OP	
1	1	UNUSED	
1	2	CNSL ACK	
1	3	CNSL CONT	
1	4	ID DATA ← ID REG	ID ADDRS ← SC(5 0)
1	5		ID ADDRS ← UNMX
1	6	ID REG ← ID DATA	ID ADDRS ← SC(5 0)
1	7		ID ADDRS ← UNMX

(ICLH) ID ADDRESS DECODE

ID ADDPS	ID REGISTER	ID REG PEAD EN H	IDM(S2 S0) L		
			S2	S1	S0
00	DQ (ID MAINT ONLY)	L	X	X	X
09	NXT INTV	L	X	X	X
0A	CLOCK CS	H	H	L	H
0B	INTV CNT	H	H	L	L
0C	CES	H	L	H	H
0D	VECT	H	L	H	L
0E	SIR	H	L	L	H
0F	PSL	H	L	L	L
24-2F	ATMP	H	H	H	H
30-3F	BTMP	H	H	H	L

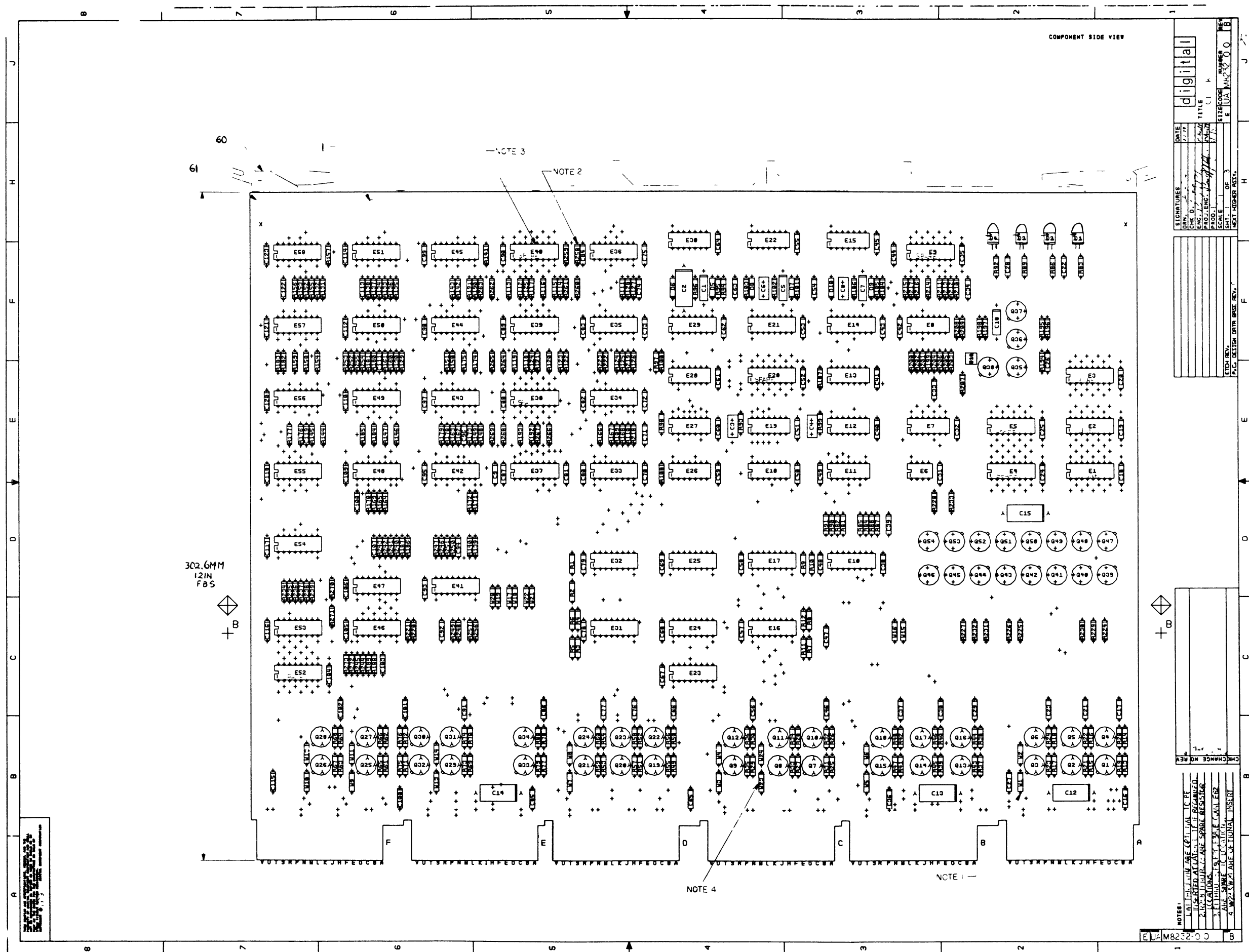
(ICLD) UIEK DECODE

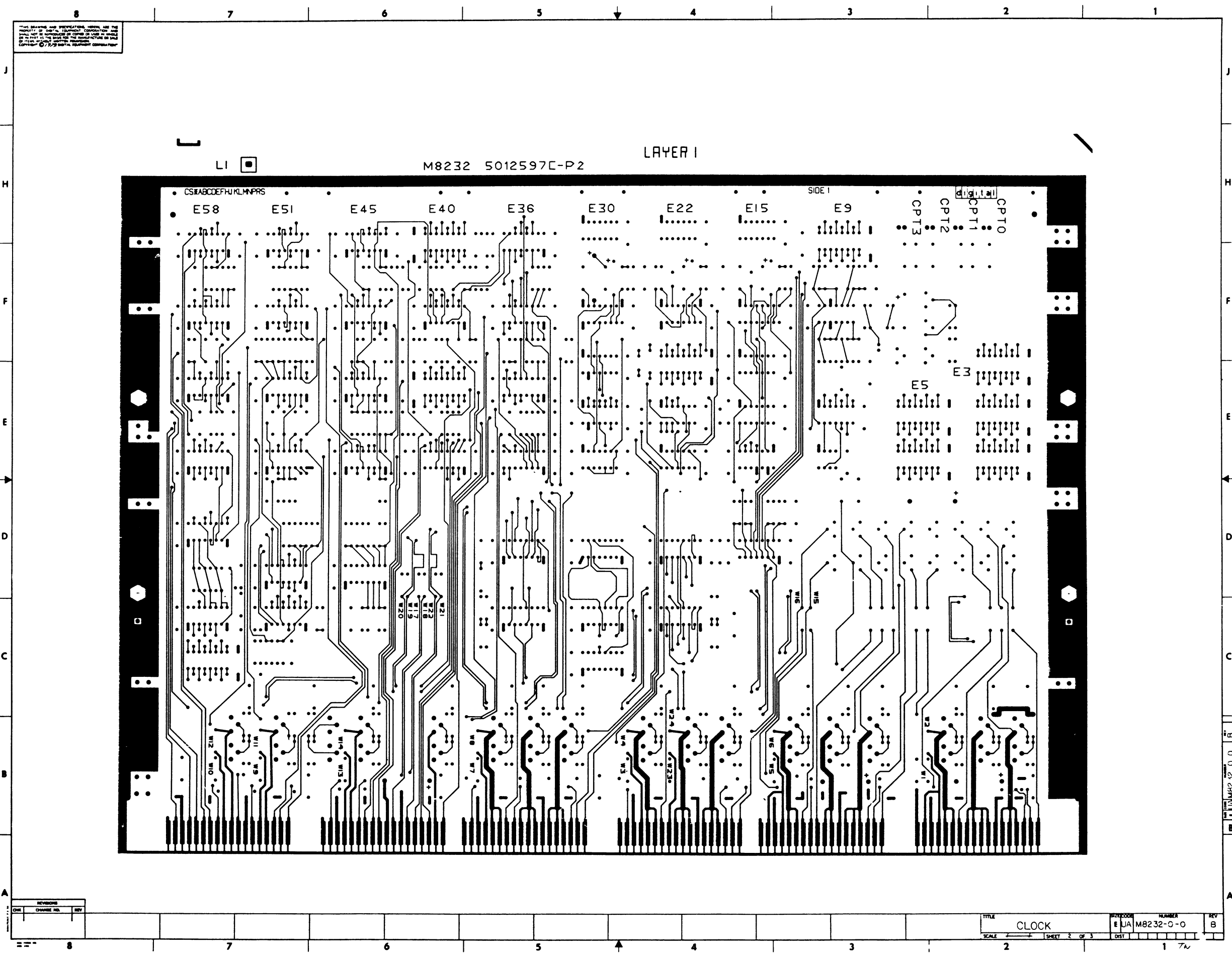
UIEK	FUNCTION
0	NO-OP
1	ISTR
2	IACK
3	EACK

REVISIONS		
CHK	CHANGE NO	REV

(DECODING LOGIC DESCRIPTION)

TITLE	SIZE CODE	NUMBER	REV.
INTERRUPT CONTROL AND LOW BITS (ICL)	DCS	M8231-0-1	C
SCALE	SHEET	2 / OF 2 /	DIST.





NOT BEARING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF THE U.S. GOVERNMENT. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM THE U.S. GOVERNMENT.

REVISIONS		
NO.	DESCRIPTION	REV.
1		

TITLE	CLOCK	PROJECT	M8232-0-0	REV	B
SCALE	1:1	SHEET	2 OF 3	DATE	

This drawing and specification herein are the property of ARPA, Research Corporation, and shall not be reproduced or copied in whole or in part without the written permission of ARPA.

M8232
5012597C-P2
CLOCK
SIDE 2

P R3YA J L 4

CLOCK

REVISIONS
CHK CHGSE NO. REV

TITLE
SCALE SHEET 3 OF 3

DRAWN BY
EUA M8232-0-0

REV B

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
1	1	E-ME-5012597-00	M8232	1	
2	2	1000021-00	220.0 MMF 100V 5%200PPM DM15S	2	C6,C8
3	3	1000024-00	470.0 MMF 100V 5%200PPM DM15S	2	C3,C4
4	4	1001776-00	1 MFD 35V 10% S.TANT	1	C5
5	5	1004813-00	10 MFD 20V 10% S.TANT	1	C2
6	6	1009964-00	.68 MFD 35V 10% 1500 S.TA	3	C1,C7,C10
7	7	1011740-00	5000.0 MMF 50V 10% CW15C CER.	1	C11
8	8	1012084-01	8 MFD 25V G% 30D AL EL	4	C12-C15
9	9	1012784-00	.047 MFD 50V -20+80 CER	111	C9,C16-C125
10	10	1100114-00	D 664 QS\75PCB PIV= 25V SP	6	D5-D10
11	11	1100864-00	LED 2MCD010MA	4	D1-D4
12	12	1300247-00	120 1/4W 5% CC	92	R1,R3,R5,R7,R9,R11,R13,R15,R17, CONT R19,R21,R23,R25,R27,R29,R31,R33, CONT R35,R37,R39,R41,R43,R45,R47,R49, CONT R51,R53,R55,R57,R59,R61,R63,R65, CONT R67,R69,R71,R73,R75,R77,R79,R82, CONT R85,R88,R91,R112,R114,R116,R118, CONT R120,R122,R129,R131,R133,R135, CONT R137,R139,R142,R144,R146,R148, CONT R150,R152,R158,R160,R162,R164, CONT R169,R171,R174,R176,R178,R180, CONT R182,R184,R186,R188,R190,R192, CONT R220,R222,R234,R236,R238,R240, CONT R242,R244,R246,R248,R250,R252, CONT R254,R256 R81,R84,R87,R90 R93,R99 R83,R86,R89,R92 R94,R97,R98,R100,R103,R108-R111, CONT R124-R128,R166-R168,R196,R218,
13	13	1300250-00	150 1/4W 5% CC	4	
14	14	1300271-00	220 1/4W 5% CC	2	
15	15	1300295-00	330 1/4W 5% CC	4	
16	16	1300365-00	1 K 1/4W 5% CC	28	

REVISION HISTORY			BASIC PART NO: M8232		
ENG	ECO NUMBER	REV	SECTION A OF A	DRN: P.TELLIER	DATE: 16-JUL-79
---	INITIAL	B	SECTION VARIATION INDEX	CHK'D: L.GIAMMARINO	DATE: 16-JUL-79
			(A) 00		
			(B)		
			(C)	DES.ENG: B.FLAHIVE	DATE: 16-JUL-79
			(D)		
			(E)		
			(F)	RESP.ENG.: B.FLAHIVE	DATE: 16-JUL-79
			(H)		
			(J)		
			(K)	IMFG.ENG.: M.TEPELLA	DATE: 16-JUL-79
			(L)		
			(M)	ASSEMBLY NUMBER:	TOP DOCUMENT NUMBER:
			(N)	E-UA-M8232-0-0	B-DD-M8232-0-0
				SIZE: K	PL: M8232-0-DBP
				FILE NAME:	EDIT #:
				M8232.PLS	3
"THIS DRAWING AND SPECIFICATIONS HERFIN", ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.					
COPYRIGHT (C) 1970, DIGITAL EQUIPMENT CORPORATION "					

TW

LINE ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION	REFERENCE DESIGNATOR
				00	
17	17	1300391-00	1.5 K 1/4W 5%	CC 1	CONT R219,R224-R227,R229-R232
18	18	1300439-00	3.3 K 1/4W 5%	CC 1	R195
19	19	1300479-00	10 K 1/4W 5%	CC 2	R209
20	20	1301310-00	270 K 1/4W 5%	CC 4	R104,R107
21	21	1301322-00	180 1/4W 5%	CC 88	R199,R203,R210,R214
					R2,R4,R6,R8,R10,R12,R14,R16,R18,
					CONT R20,R22,R24,R26,R28,R30,R32,R34,
					CONT R36,R38,R40,R42,R44,R46,R48,R50,
					CONT R52,R54,R56,R58,R60,R62,R64,R66,
					CONT R68,R70,R72,R74,R76,R78,R80,
					CONT R113,R115,R117,R119,R121,R123,
					CONT R130,R132,R134,R136,R138,R140,
					CONT R143,R145,R147,R149,R151,R153,
					CONT R159,R161,R163,R165,R170,R172,
					CONT R175,R177,R179,R181,R183,R185,
					CONT R187,R189,R191,R193,R221,R223,
					CONT R235,R237,R239,R241,R243,P245,
					CONT R247,R249,R251,R253,R255,R257
22	22	1301423-00	6.8 K 1/4W 5%	CC 1	R208
23	23	1301972-00	270 1/4W 5%	CC 8	R141,R154-R157,R173,R228,R223
24	24	1302091-00	330 K 1/4W 5%	CC 1	R198
25	25	1302092-00	220 K 1/4W 5%	CC 4	R201,R205,R212,R216
26	26	1302394-00	30 K 1/4W 5%	CC 6	R95,R96,R101,R102,R105,R106
27	27	1309595-00	1 M 1/4W 5%	CC 4	R202,R206,R213,R217
28	28	1310867-00	680 K 1/4W 5%	CC 1	R197
29	29	1312930-00	5.1 K 1/4W 5%	CC 6	R194,R200,R204,R207,R211,R215
30	30	1510959-00	2N 3725 NPN 3.5WC SI 50 60 P	38	Q1-Q38
31	31	1511686-00	DEC5433 FET N 350MW 10 25 1A	16	Q39-Q54
32	32	1814057-00	OSCILLATOR, CRYSTAL 40.0 MHZ	1	E22
33	33	1814057-01	OSCILLATOR, CRYSTAL 42.1 MHZ	1	E15
34	34	1814057-02	OSCILLATOR, CRYSTAL 35.7 MHZ	1	E30
35	35	1910436-00	DEC 74123 ONE SHOT-DUAL,RETRIG	3	E14,E21,E29
36	36	1910534-00	74S04 INVERTER GATE-HEX 1I	1	E18
37	37	1910537-00	74S11 AND GATE-TRIPLE 3INP	1	E13
38	38	1910544-00	74S74 FF-D DUAL,EDGE TRIGG	2	E27,E28
39	39	1910645-00	75452 DRIVER,PERIPH,DUAL,	1	E6
40	40	1911324-00	7414 INVERTER,HEX 1IN SCH	1	E7
41	41	1911398-00	10101 OR/NOR GATE,4-2IN	5	E16,E17,E31,E32,E44
42	42	1911401-00	10104 AND GATE,QUAD 2IN	2	E48,E54
43	43	1911402-00	10105 OR/NOR GATE,2-3-2	4	E23,E24,E43,E53
44	44	1911404-00	10107 XOR/NOR GATE,3-2IN	1	E55
45	45	1911413-00	10121 OR/AND GATE,4WIDE	1	E49
46	46	1911414-00	10124 TTL TO ECL TRNSLTR	4	E33,E34,E35,E36
47	47	1911415-00	10125 ECL TO TTL TRNSLTR	2	E10,E37
48	48	1911416-00	10131 DUAL D MSTR/SL,FF	9	E42,E45,E46,E47,E50,E51,E56,E57,
					CONT E58
49	49	1911420-00	10174 DUAL 4 TO 1 MUX	1	E39
50	50	1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	1	E11

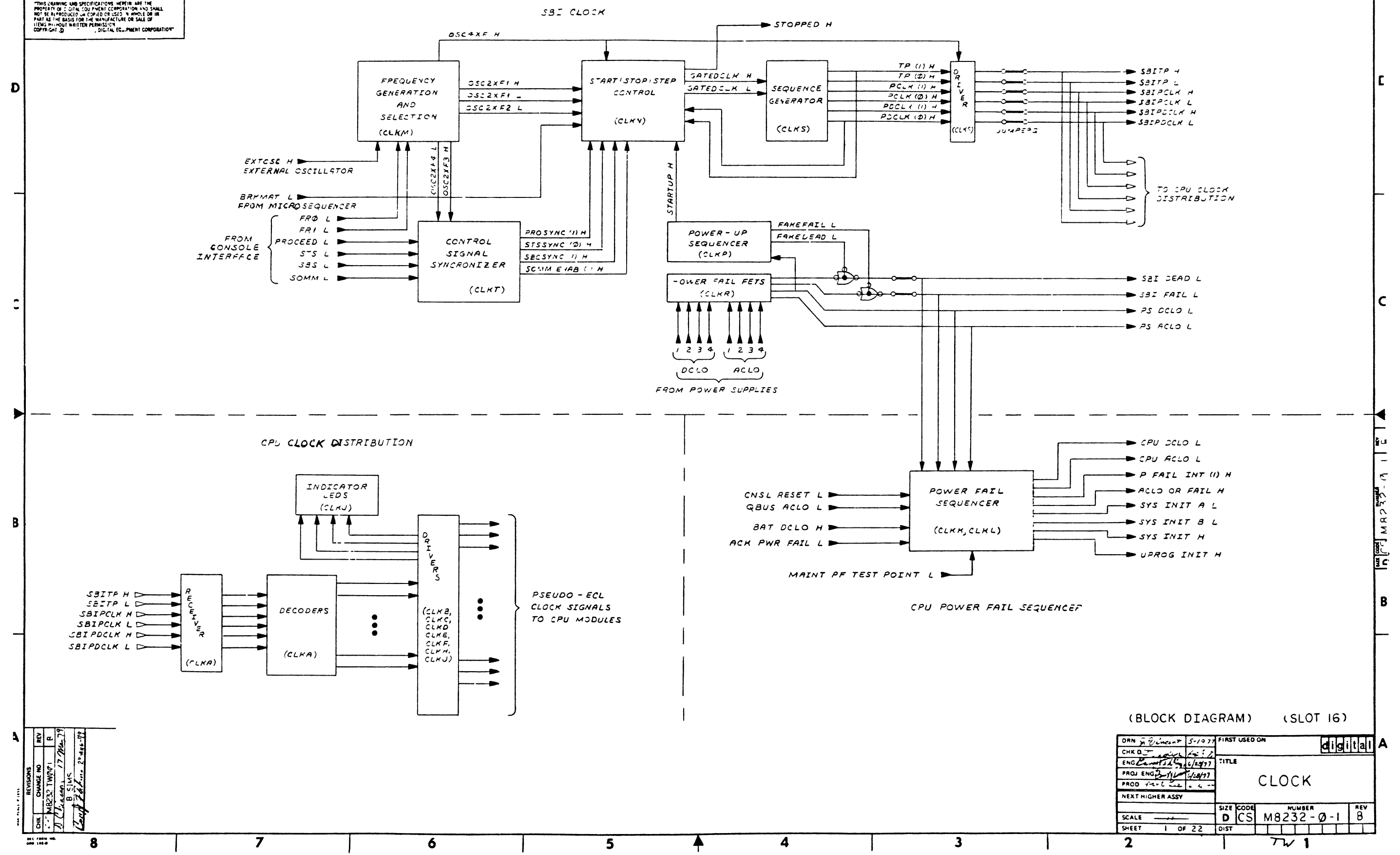
D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							CLOCK					
									K	PL	M8232-0-DBP	B

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
51	51		1911507-00	10176 FF-D HEX	1	E41
52	52		1912108-00	339 VOLT CMPPTR,QUAD	1	E8
53	53		1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	1	E26
54	54		1912811-00	LS21 AND GATE-DUAL 4IN,PO	1	E12
55	55		1912838-00	LS132 NAND GATE-QUAD 2IN P	1	E19
56	56		1913220-00	10216 RECEIVER,TRIPLE LINE	1	E25
57	57		9009185-00	JUMPER, WIRE, INSULATED, BLACK B	8	W15-W22
58	58		1210711-02	HANDLE,MODULE,HEX	1	
59	59		9000024-02	EYELET, FLAT FLANGE, .093 OD X .	12	
60	60		9007210-00	FUSE, REG BLOW, .750A, 250V, G	38	

NOTE: SPARE I.C. LOCATIONS ARE: F1-E5,E9,E38,E40,E52,E20

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							CLOCK		K	PL	M8232-0-DBP	B

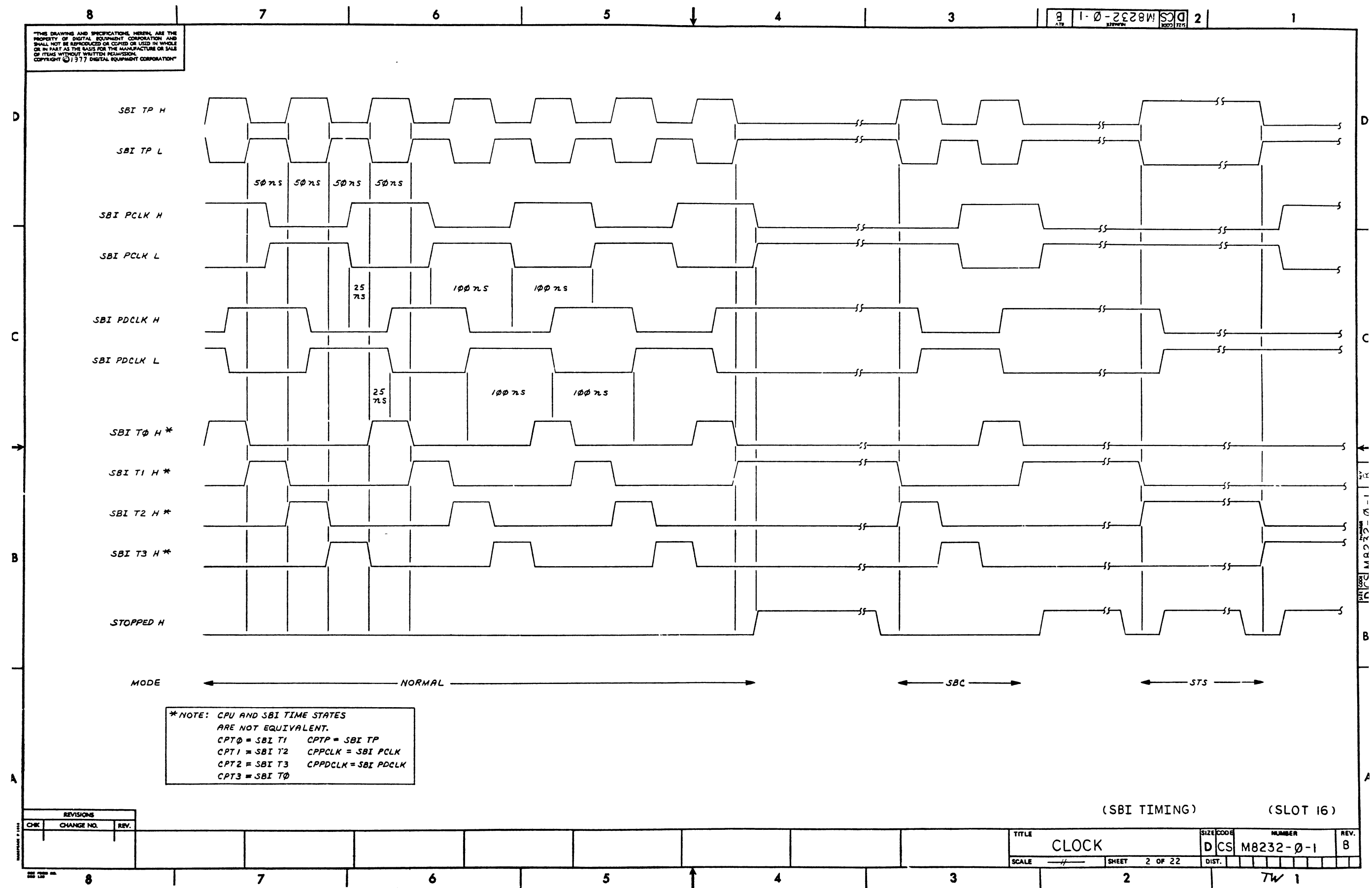
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION OF DIGITAL EQUIPMENT CORPORATION



(BLOCK DIAGRAM) (SLOT 16)

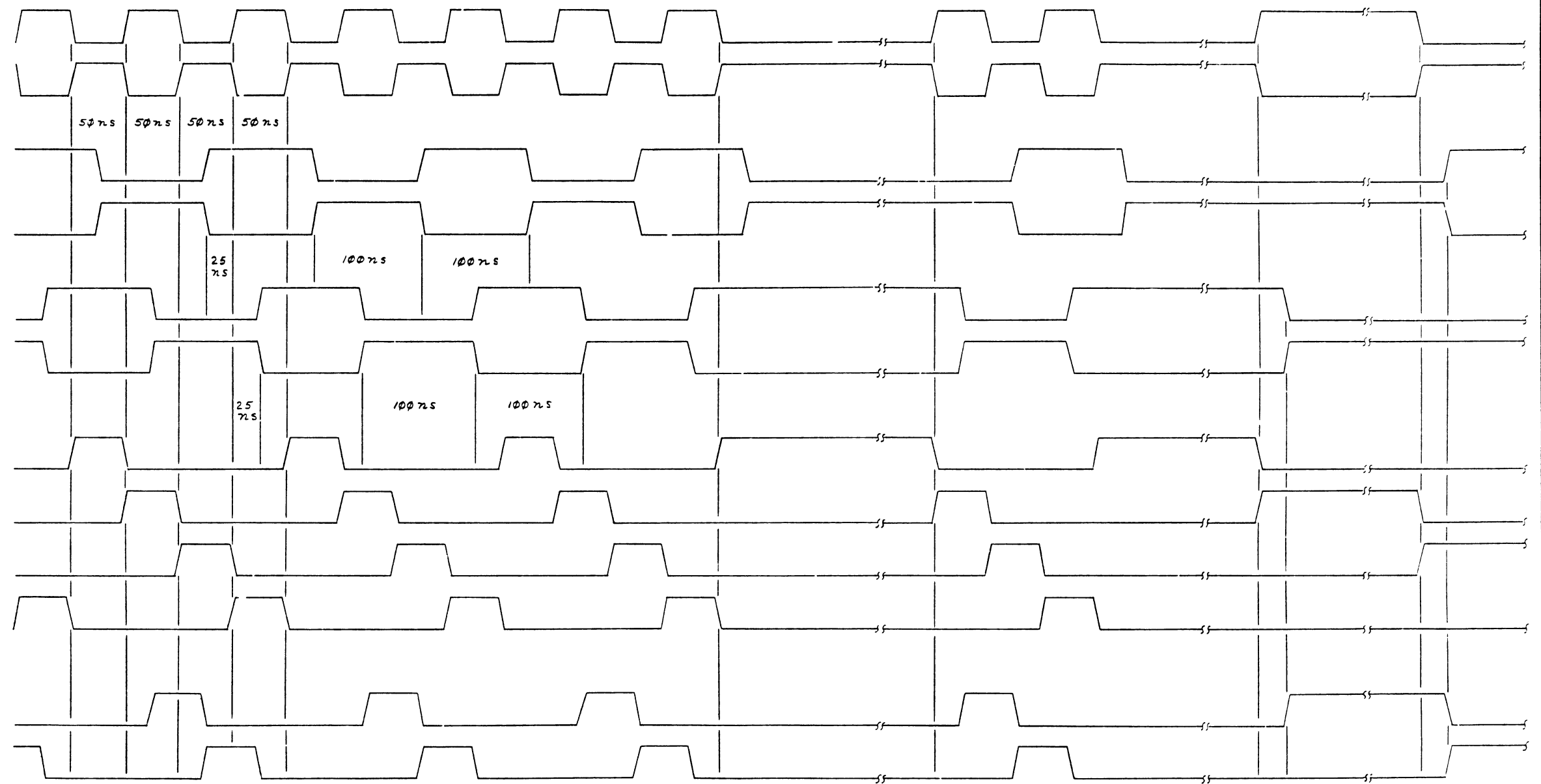
DRAWN BY: [Signature]	DATE: 5-10-77	FIRST USED ON:	digital
CHKD BY: [Signature]	DATE: 6-1-77	TITLE:	CLOCK
ENG BY: [Signature]	DATE: 6-1-77	PROJ ENG BY: [Signature]	DATE: 6-1-77
PROD BY: [Signature]	DATE: 6-1-77	NEXT HIGHER ASSY:	
SCALE:	SIZE: D	CODE: CS	NUMBER: M8232-0-1
SHEET: 1 OF 22	DIST:	REV: B	

REV	CHANGE NO	DATE
1	1	17 Nov 79
2	2	17 Nov 79
3	3	17 Nov 79



"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1971 DIGITAL EQUIPMENT CORPORATION"

CPTP H
CPTP L
CPPCLK H
CPPCLK L
CPPDCLK H
CPPDCLK L
CPT0 H *
CPT1 H *
CPT2 H *
CPT3 H *
CPT75 H
CPT125 H

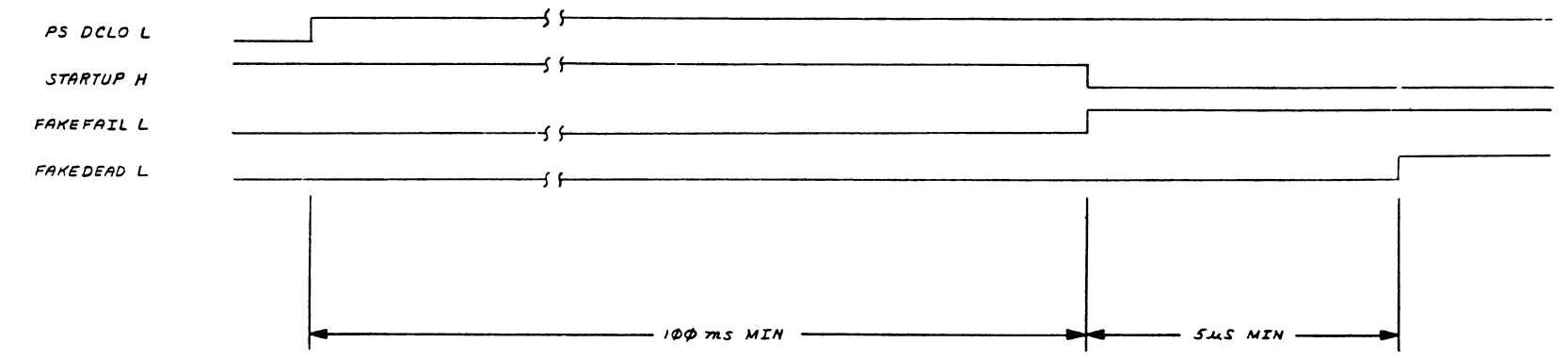
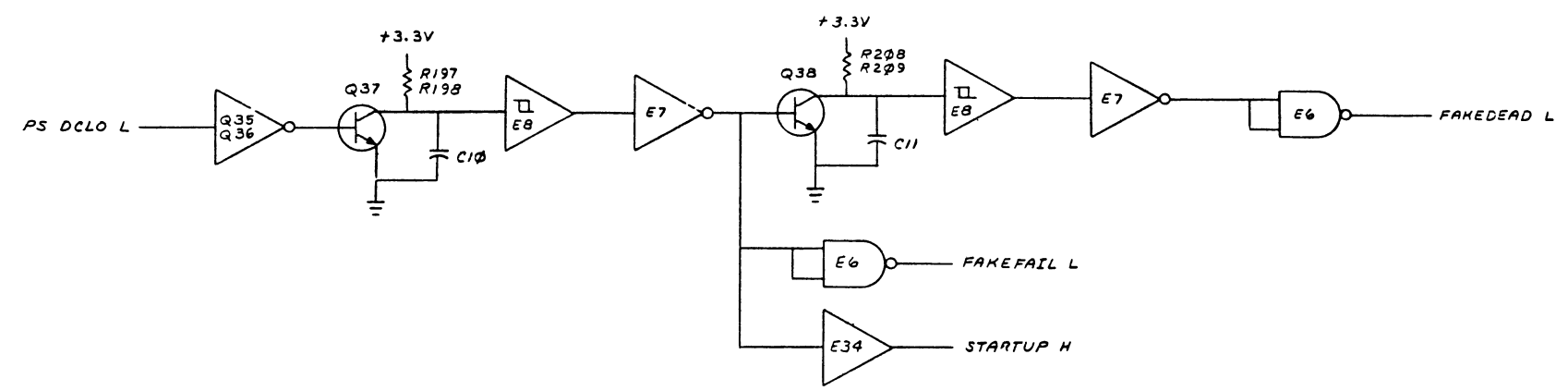


*NOTE: CPU AND SBI TIME STATES ARE NOT EQUIVALENT.
CPT0 = SBI T1 CPTP = SBI TP
CPT1 = SBI T2 CPPCLK = PCLK
CPT2 = SBI T3 CPPDCLK = PDCLK
CPT3 = SBI TP

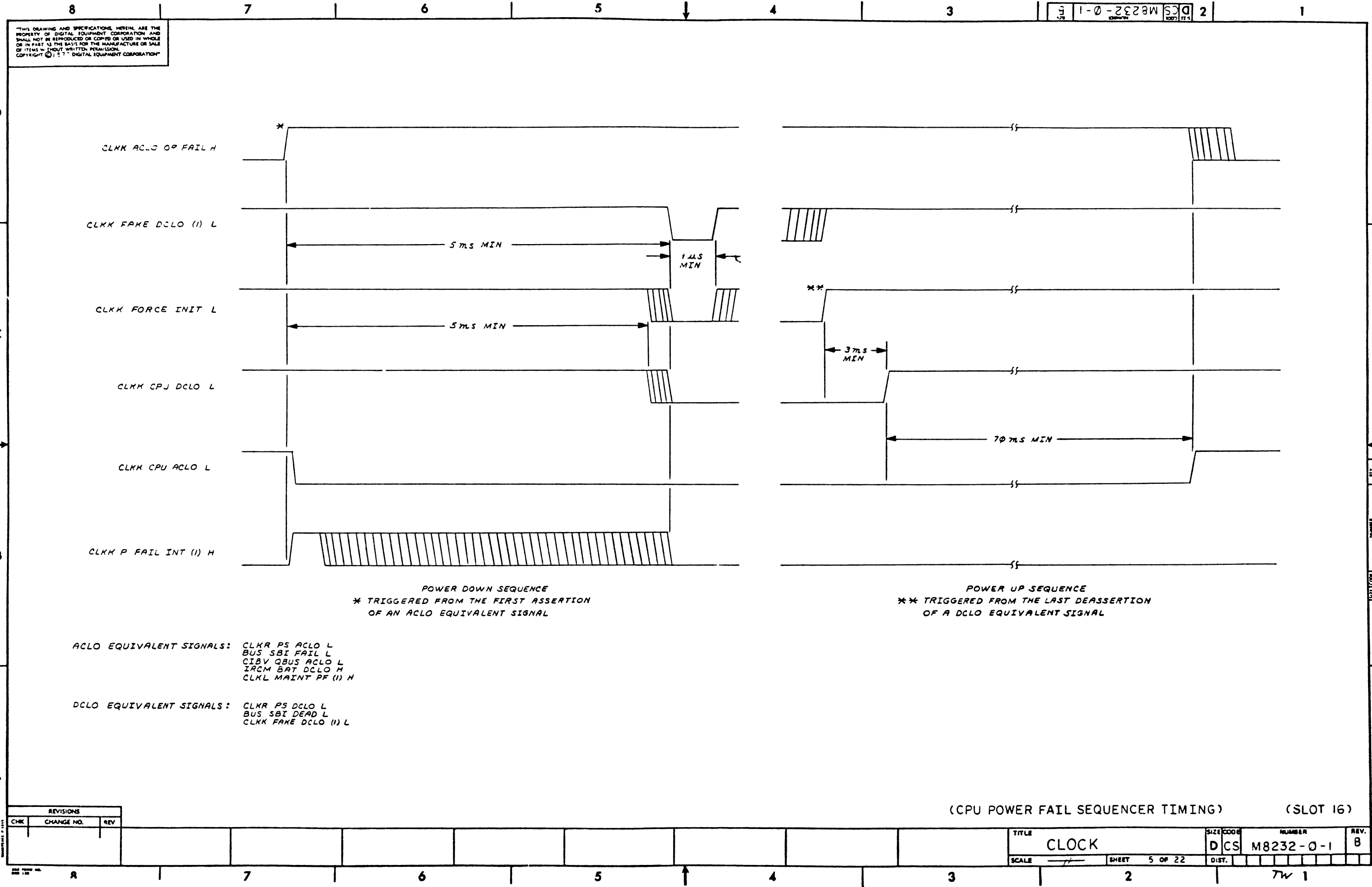
(CPU TIMING) (SLOT 16)

REVISIONS		
CHK	CHANGE NO	REV

TITLE	CLOCK	SIZE CODE	D CS	NUMBER	M8232-0-1	REV.	B
SCALE	1/2	SHEET	3 OF 22	DIST.			



(SBI CLOCK POWER UP SEQUENCER TIMING) (SLOT 16)

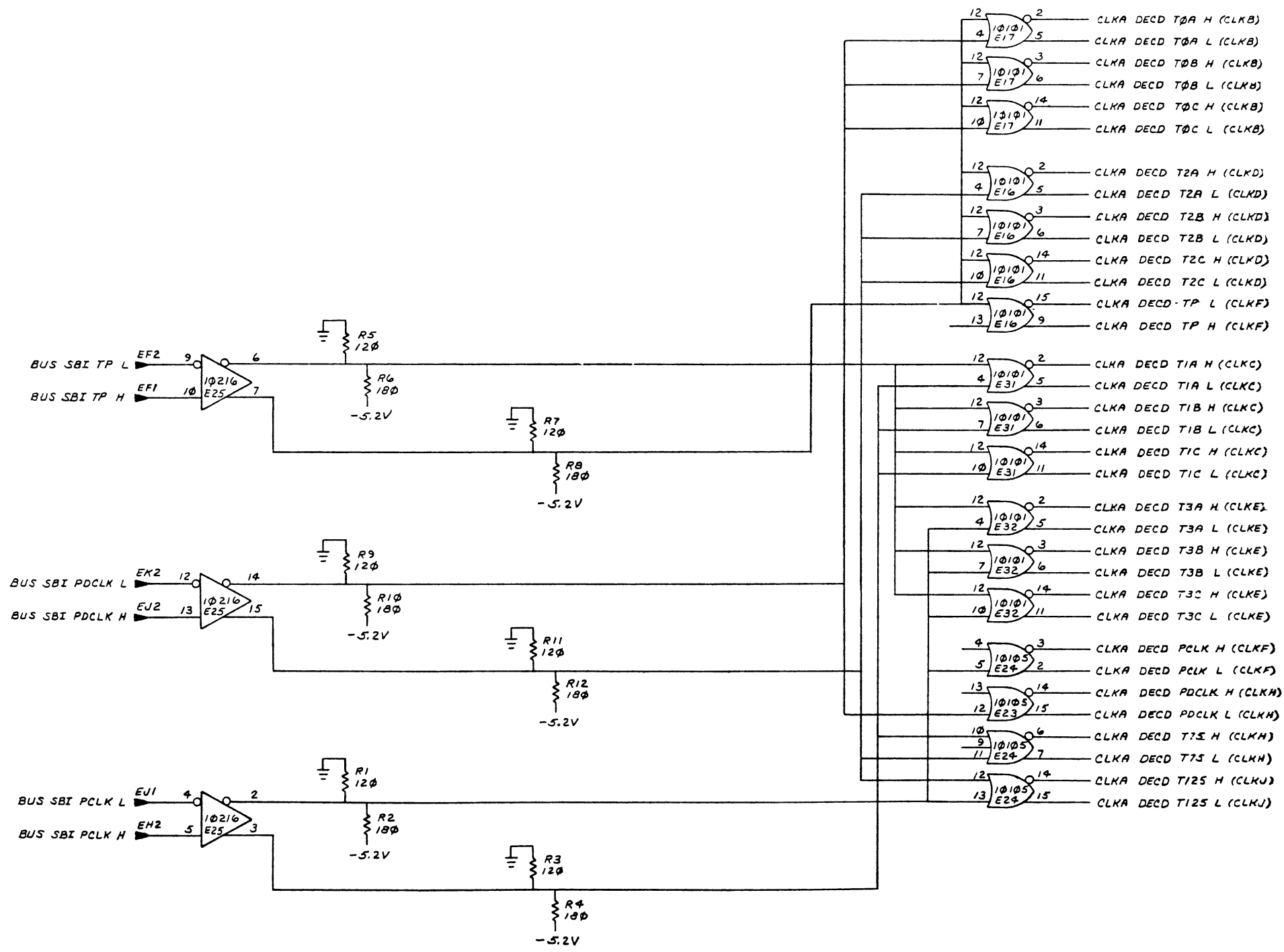


2	D	CS	M8232-0-1	E
---	---	----	-----------	---

JUMPER DATA			
JUMPER IDENTIFICATION	SCHEMATIC REFERENCE	PURPOSE	INSTALLATION DATA
W1 THROUGH W14	CLKB, CLKC CLKD, CLKE CLKF, CLKH	SEND ECL CLOCK SIGNALS TO THE ACCELERATOR (SLOT 24, 25, 26 AND 28)	INSTALLED ONLY WHEN ACCELERATOR IS INSTALLED
W23, W24	CLKC	SEND ECL CLOCK SIGNALS TO THE OPTIONAL CONTROL STORE (SLOT 18)	INSTALLED ONLY WHEN OPTIONAL CONTROL STORE IS INSTALLED
W15, W16	CLKR	DRIVE SBI FAIL AND SBI DENO ONTO THE BUS IN THE EVENT OF POWER FAILURE IN THE CPU SUBSYSTEM	W15 THROUGH W22 ARE REMOVED ONLY WHEN THE CPU RECEIVES ITS CLOCK SIGNALS FROM ANOTHER DEVICE ON THE SBI (SUCH AS A SECOND CPU)
W17 THROUGH W22	CLKS	DRIVE THE SBI CLOCK SIGNALS ONTO THE BUS	

REVISIONS		
CHK.	CHANGE NO.	REV.

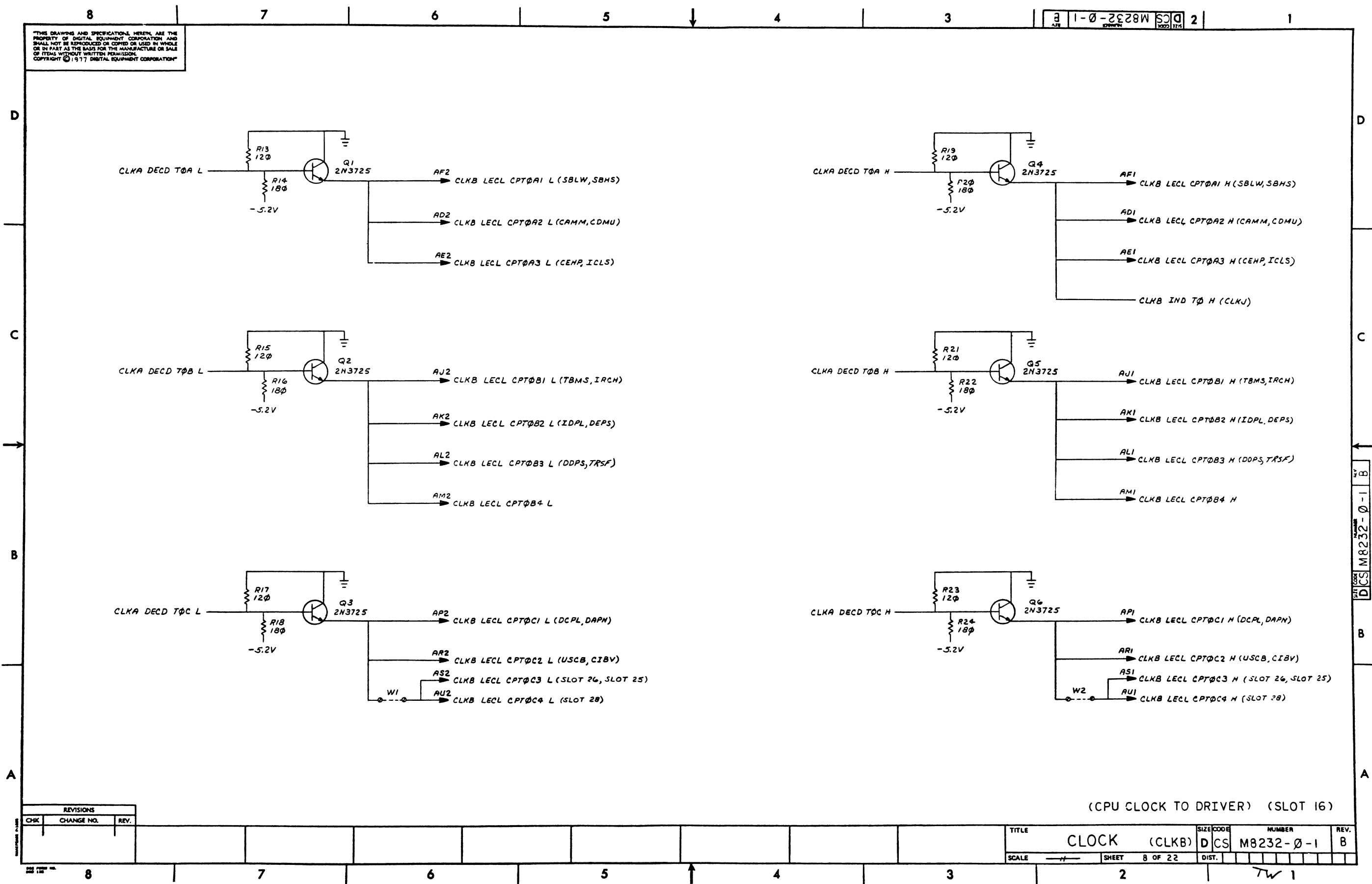
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



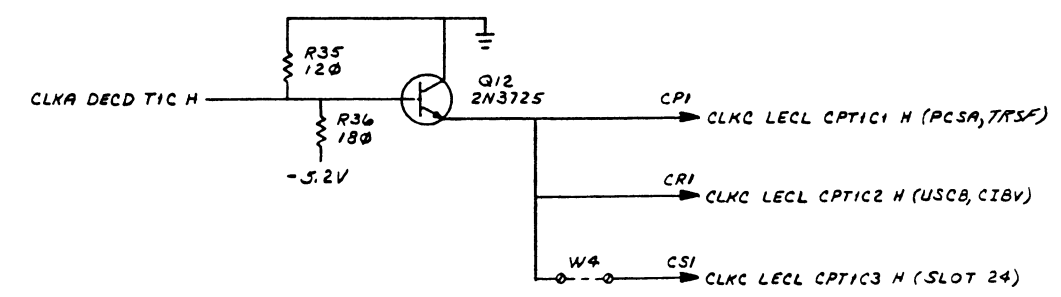
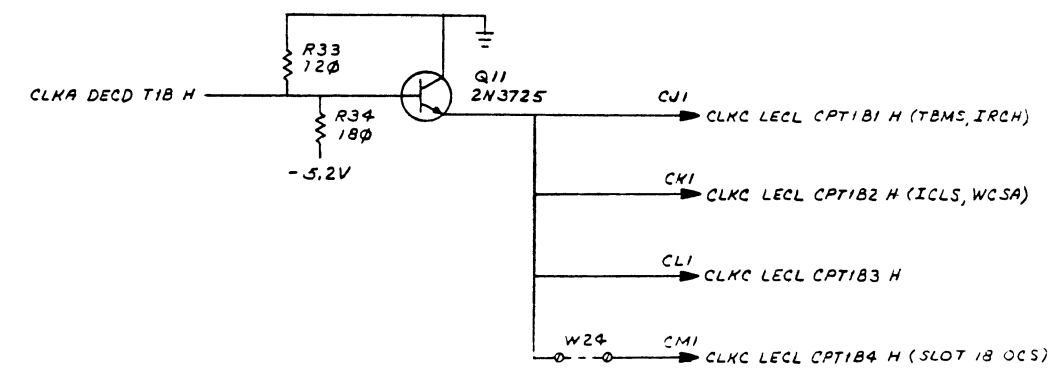
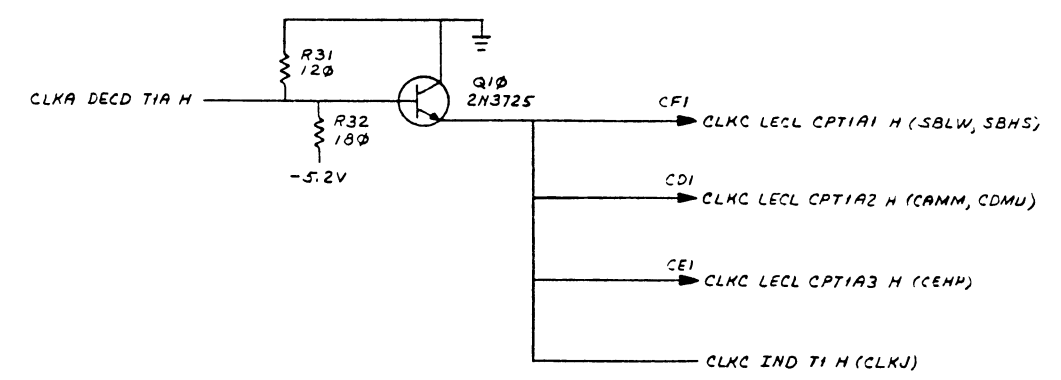
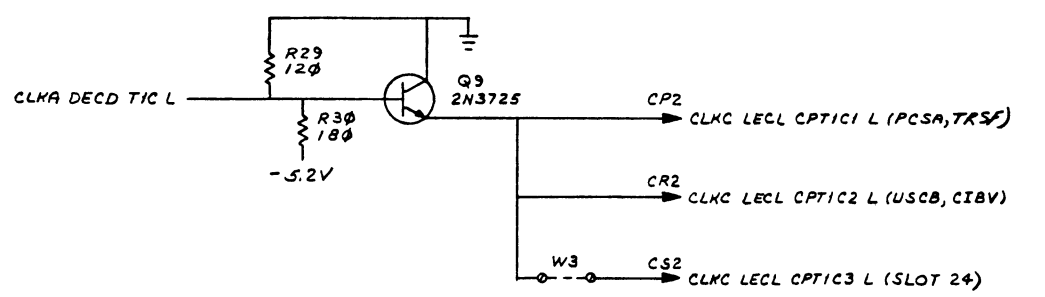
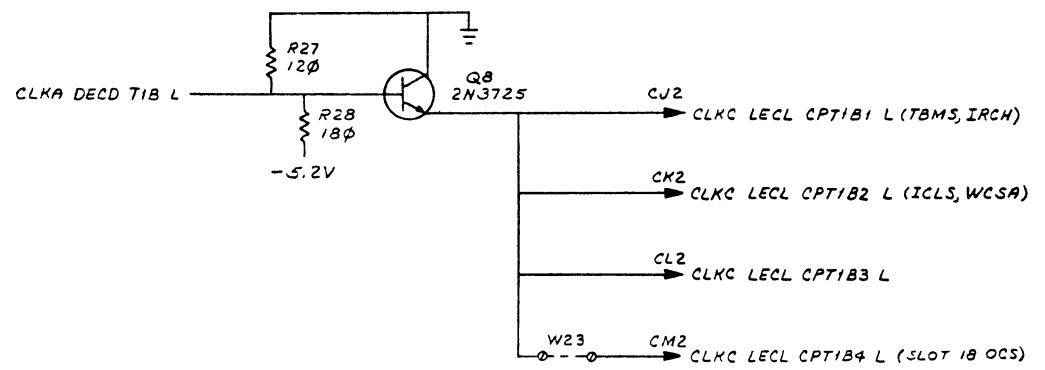
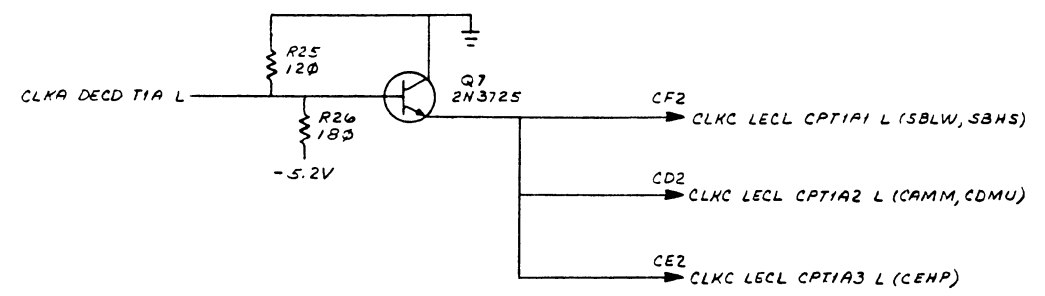
(CPU CLOCK DECODER/BUFFER) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SIZE	CODE	NUMBER		REV.
CLOCK (CLKA)		D	CS	M8232-0-1		B
SCALE		SHEET		7 OF 22		DIST.



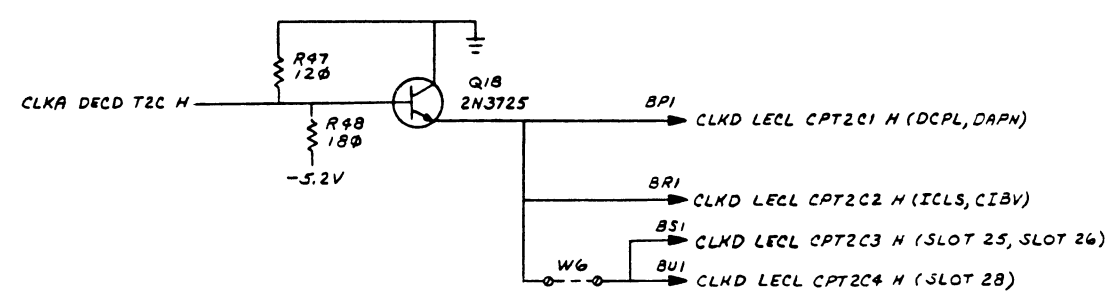
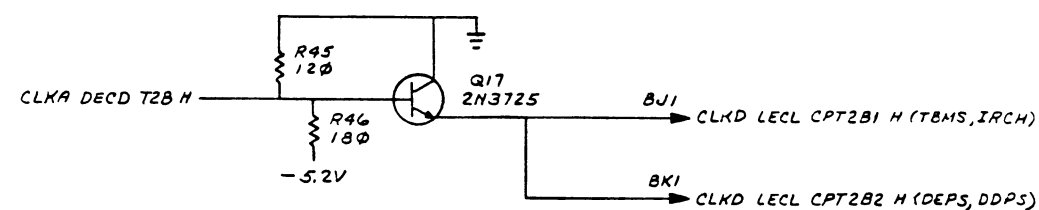
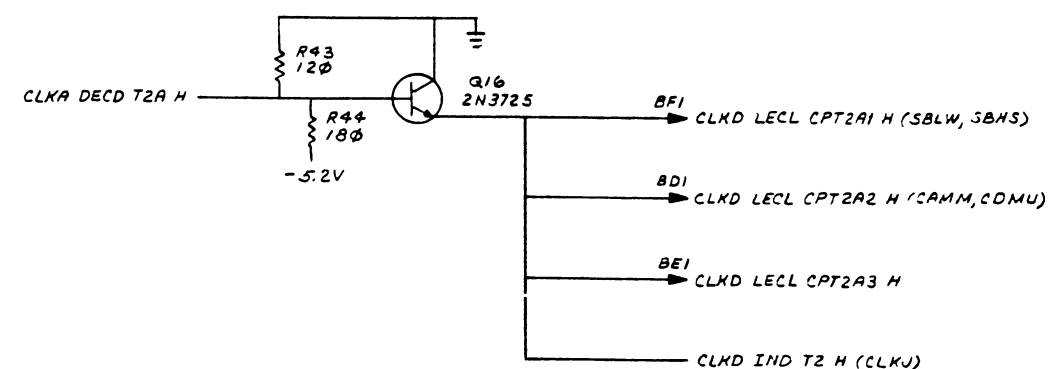
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



(CPU CLOCK T1 DRIVER) (SLOT 16)

REVISIONS													(CPU CLOCK T1 DRIVER)		(SLOT 16)			
CHK	CHANGE NO.	REV											TITLE	SIZE	CODE	NUMBER	REV.	
													CLOCK (CLKC)	D	CS	M8232-0-1	B	
													SCALE	SHEET	9 OF 22	DIST.		
			8	7	6	5	4	3	2	TW 1								

2 | DCS M8232-0-1 B

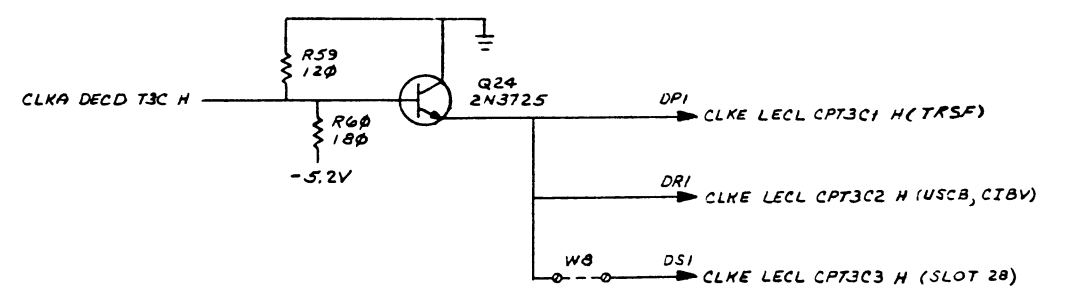
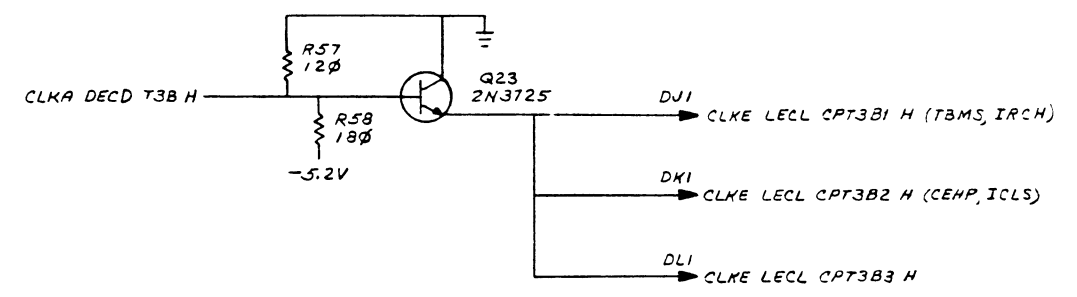
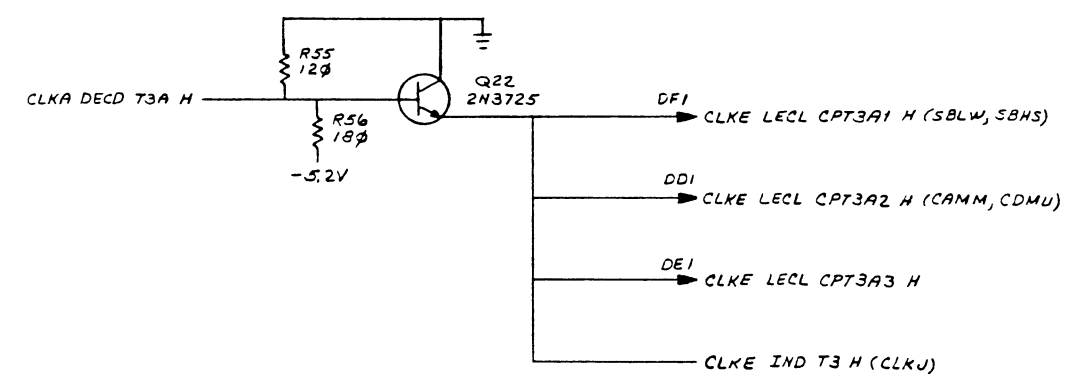
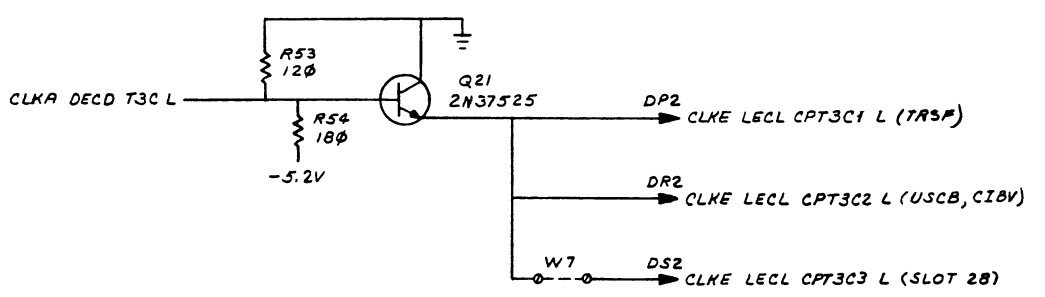
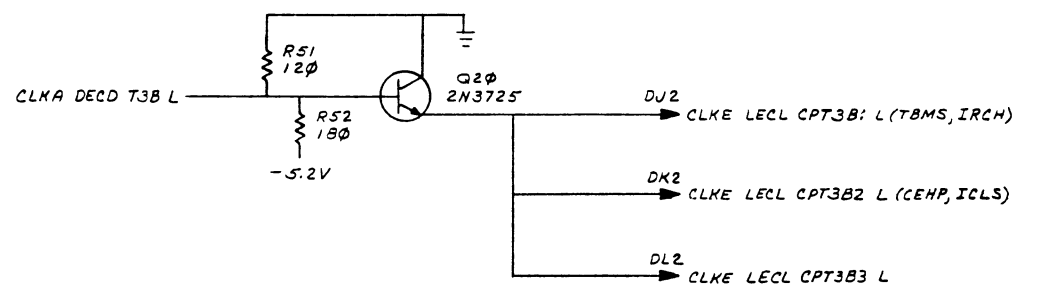
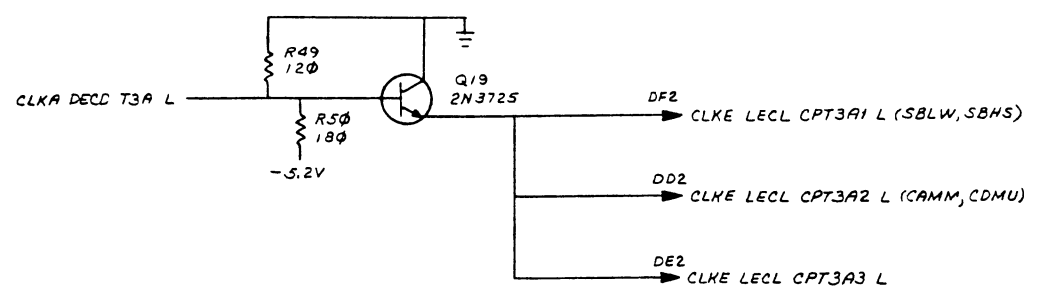


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE CLOCK (CLKD)		SIZE D	CODE CS	NUMBER M8232-0-1		REV B
SCALE —//—	SHEET 10 OF 22	DIST.				

POST-TEST

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

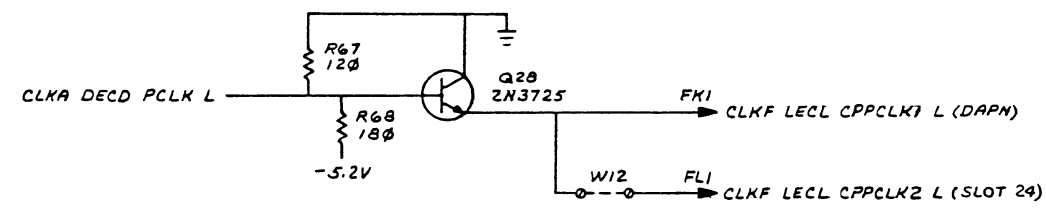
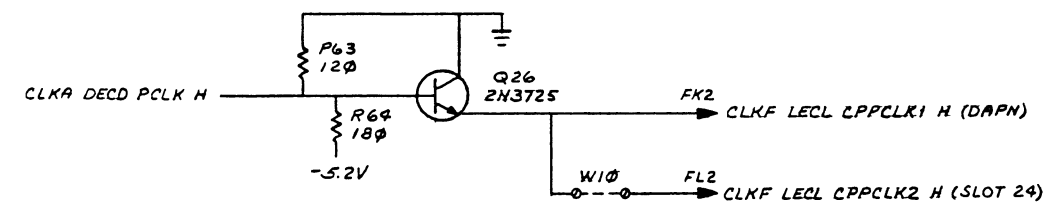
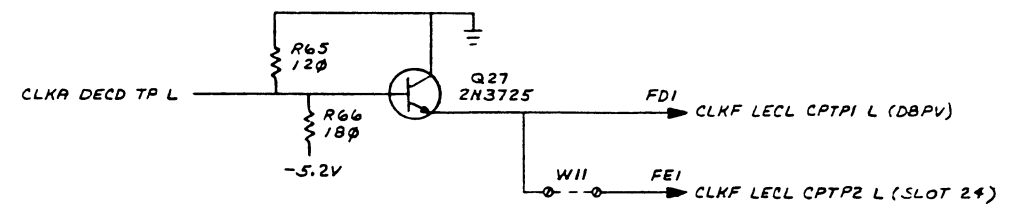
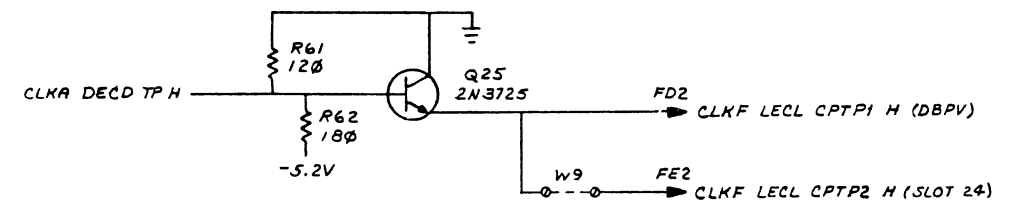


(CPU CLOCK T3 DRIVER) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE CLOCK (CLKE)		SIZE D	CODE CS	NUMBER M8232-0-1	REV. B
SCALE 1/16"	SHEET 11 OF 22	DIST.			

"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

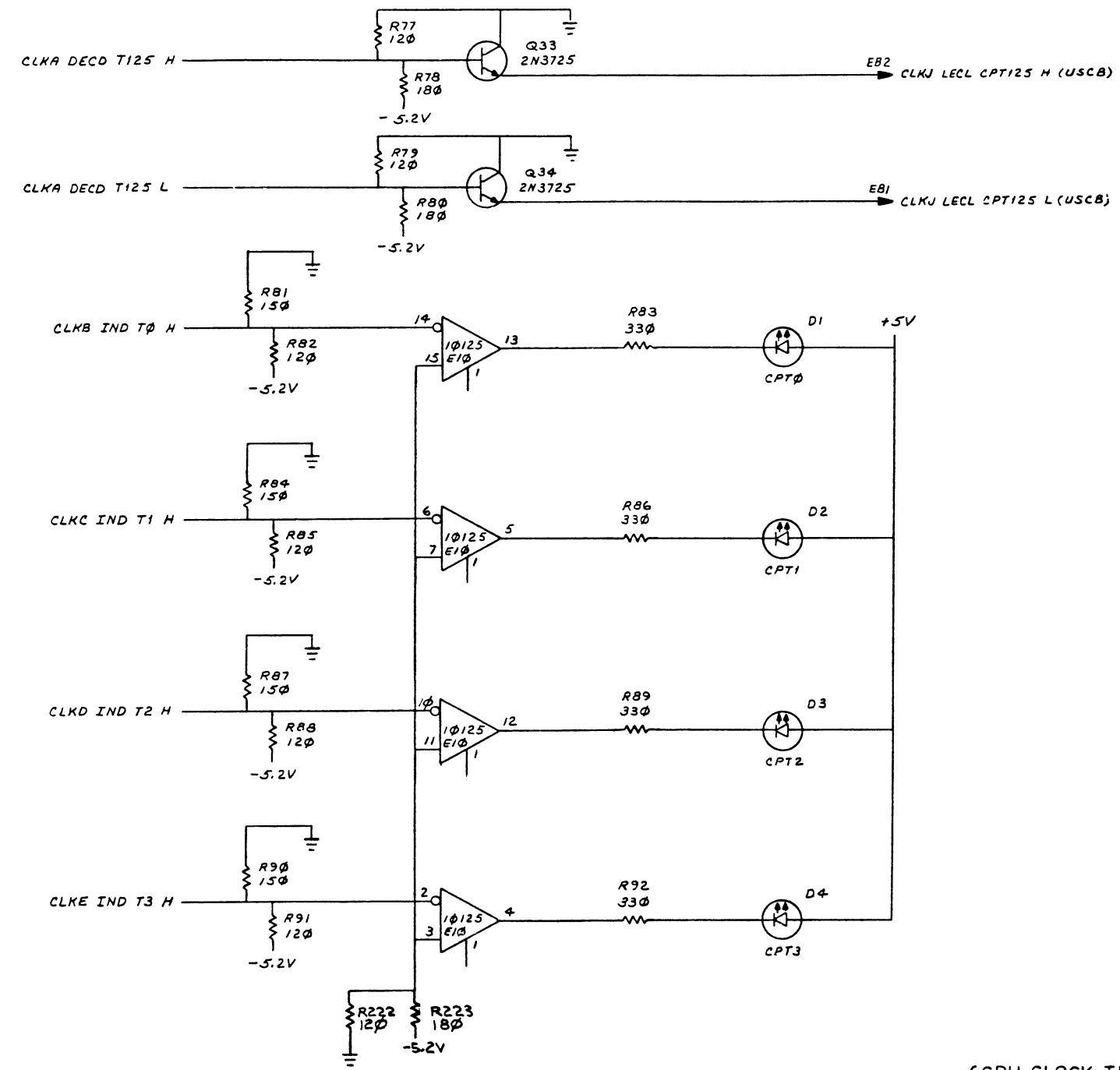


(CPU CLOCK TP, PCLK DRIVER) (SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
CLOCK (CLKF)	D	CS	M8232-0-1	B
SCALE	SHEET	DIST.		
	12 OF 22			

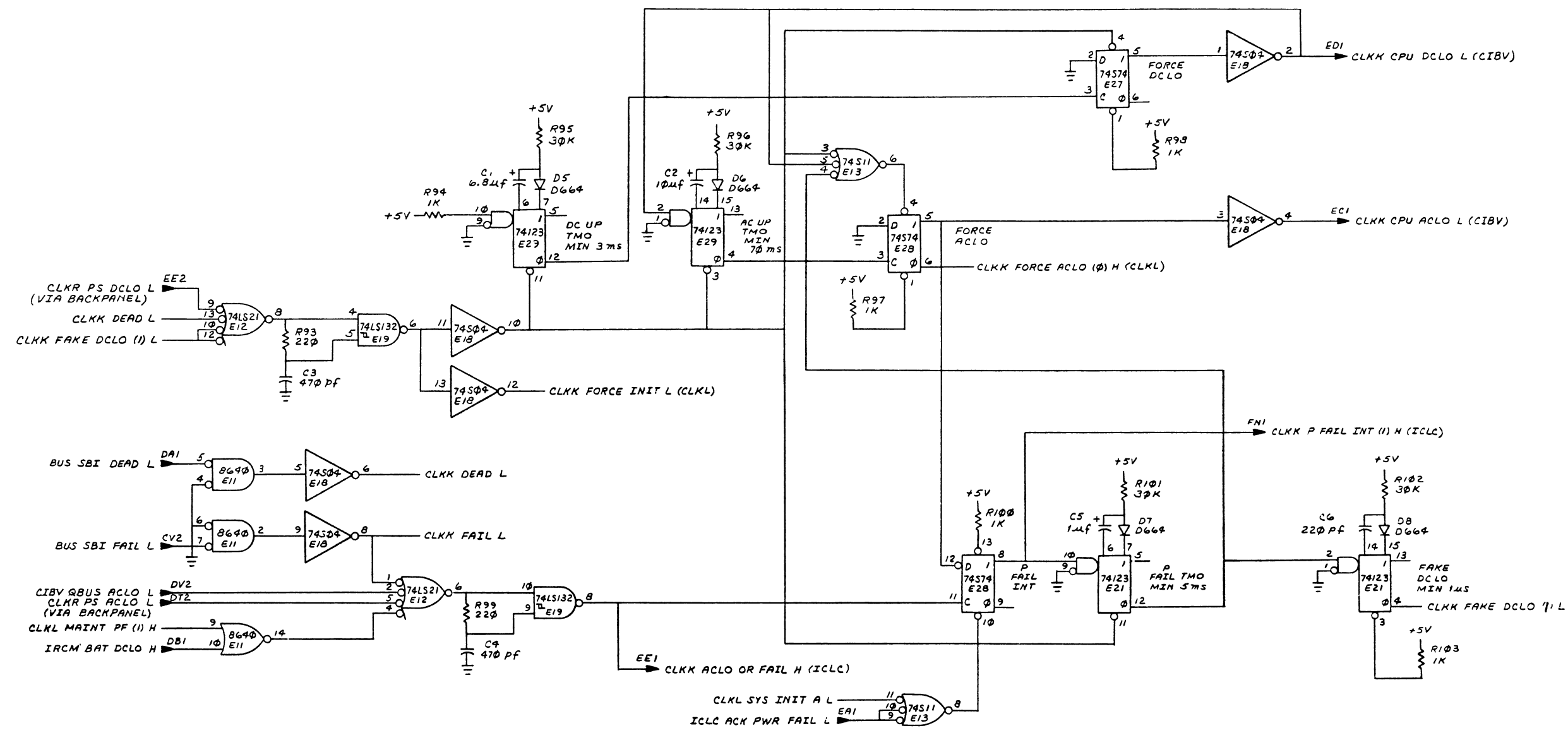
"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



(CPU CLOCK TI25 DRIVER & LED DISPLAY) (SLOT 16)


REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	CLOCK (CLKJ)	SIZE CODE	D CS	NUMBER	M8232-0-1	REV.	B
SCALE	—	SHEET	14 OF 22	DIST.			



(CPU POWER FAIL SEQUENCER) (SLOT 16)

REVISIONS			(CPU POWER FAIL SEQUENCER) (SLOT 16)														
CHK	CHANGE NO	REV.									TITLE		SIZE	CODE	NUMBER		REV.
											CLOCK (CLKK)		D	CS	M8232-0-1		B
											SCALE		SHEET 15 OF 22		DIST.		



8

7

6

5

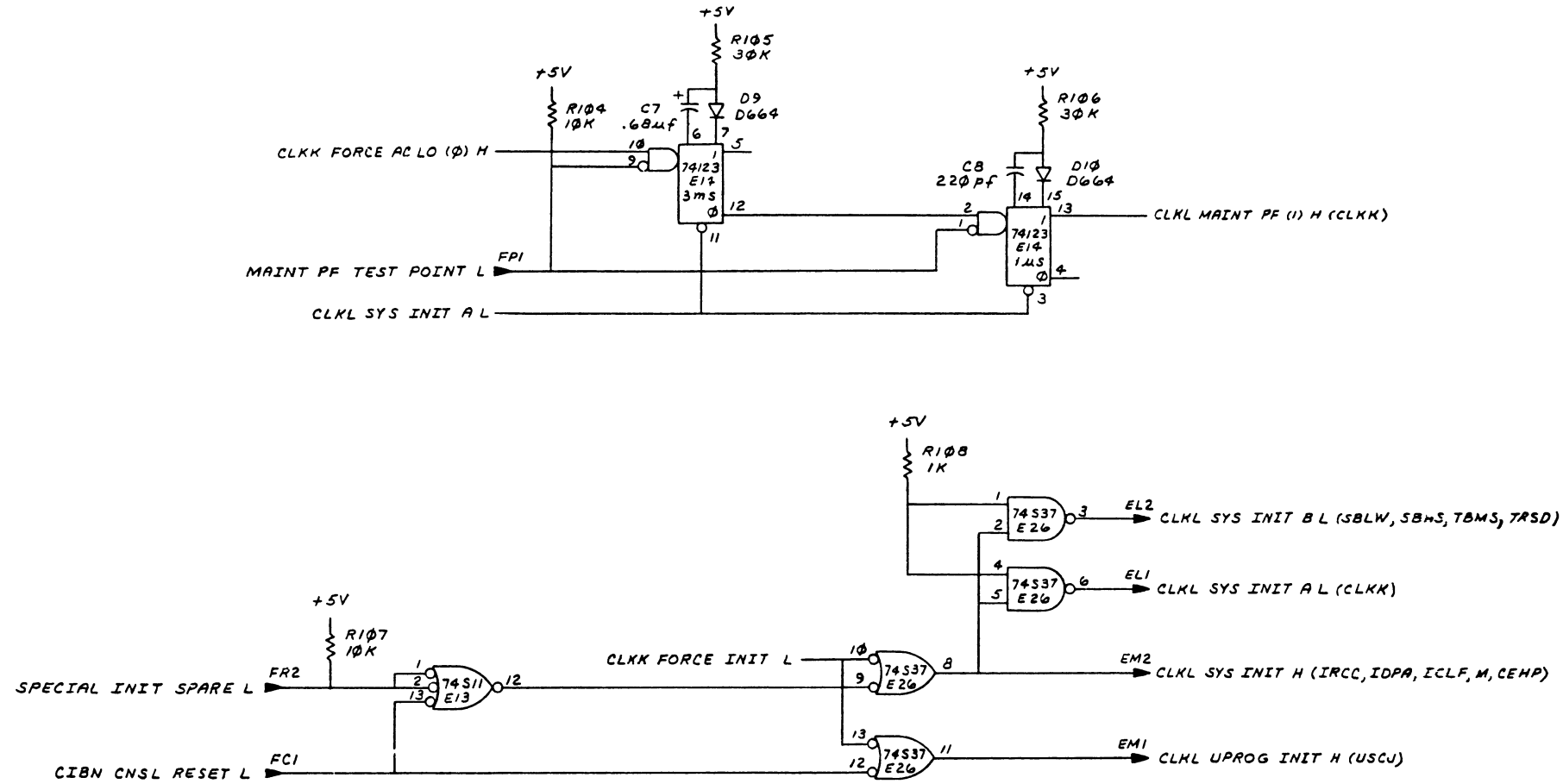
4

3

2

1

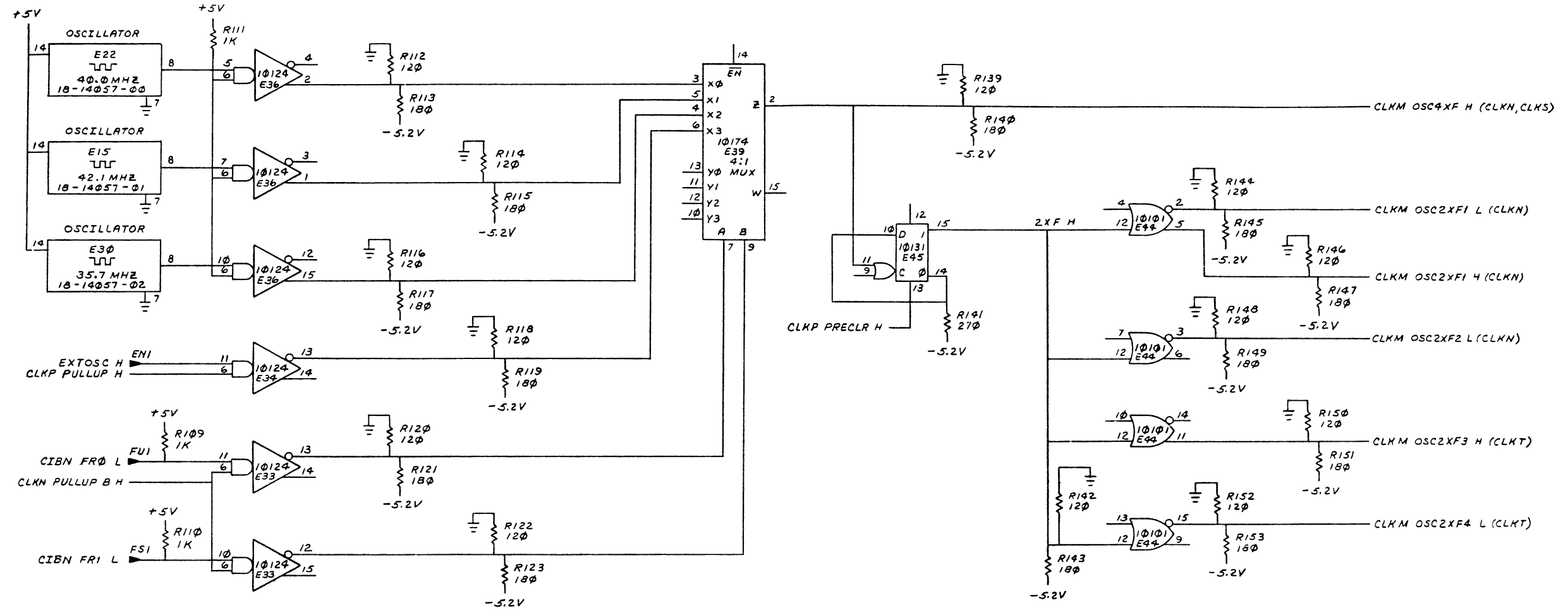
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



(CPU POWER FAIL SEQUENCER) (SLOT 16)

REVISIONS								TITLE		SIZE	CODE	NUMBER		REV.
CHK	CHANGE NO.	REV.						CLOCK (CLKL)		D	CS	M9232-0-1		B
								SCALE		SHEET 16 OF 22		DIST.		

THIS DRAWING AND SPECIFICATIONS HEREON ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



NOTE: EXTERNAL OSCILLATOR INPUT RANGE IS CONFIGURATION DEPENDANT. GUARANTEED MAXIMUM FREQUENCY IS 40.0 MHZ (200 NS CYCLE). TYPICAL MAXIMUM FREQUENCY IS 44.4 MHZ (100 NS CYCLE). TYPICAL MINIMUM FREQUENCY IS LESS THAN 15.3 MHZ (600 NS CYCLE). THE RELATION OF CYCLE TIME TO FREQUENCY IS: $\text{CYCLE (IN SECONDS)} = \frac{0.0}{\text{FREQUENCY (IN HERTZ)}}$

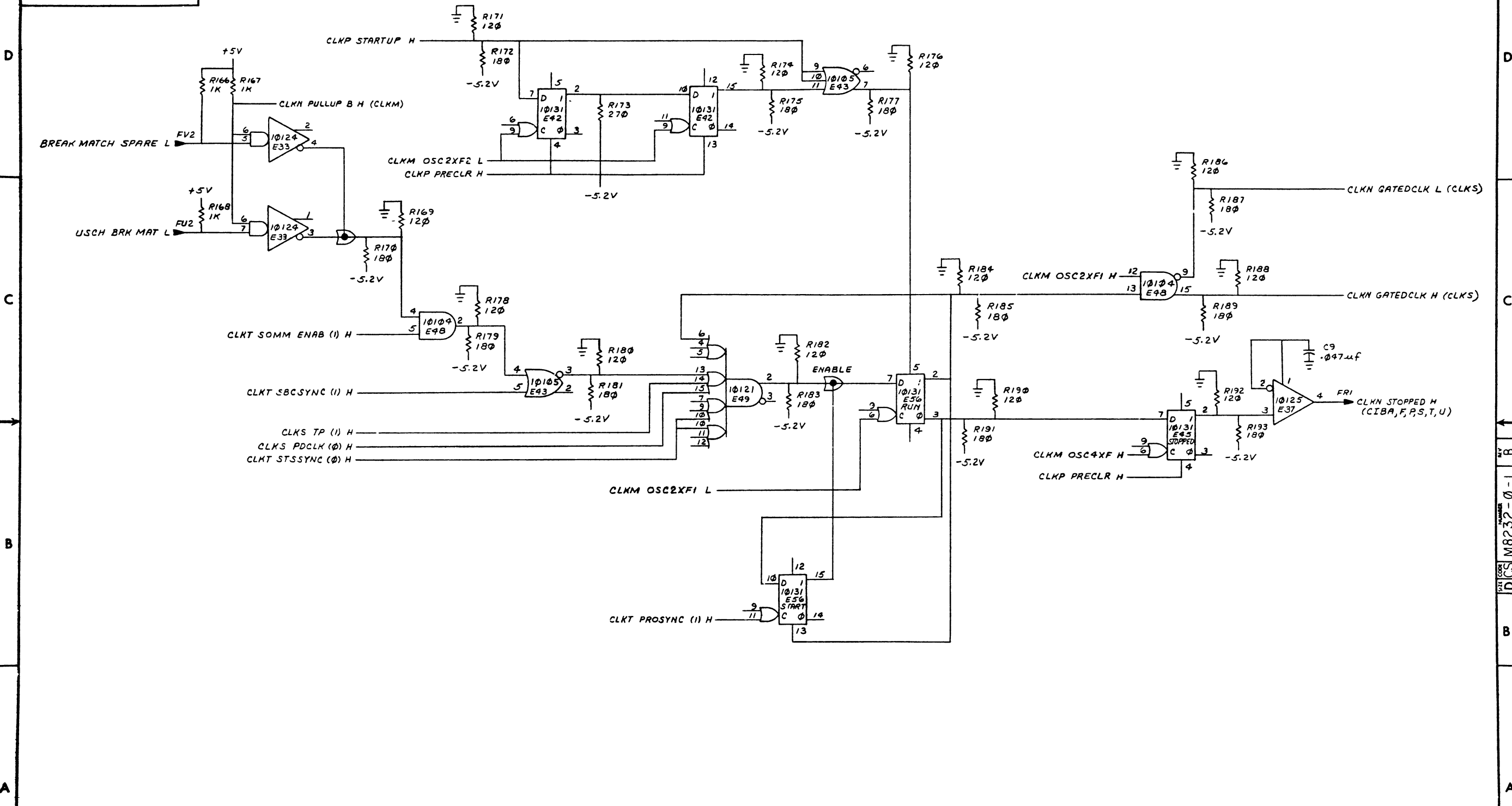
10174		
A	B	FUNCTION
L	L	Z = X0
H	L	Z = X1
L	H	Z = X2
H	H	Z = X3

(SBI CLOCK FREQUENCY GENERATION & SELECTION)(SLOT 16)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		CLOCK (CLKM)		SIZE CODE	NUMBER		REV.
SCALE		SHEET 17 OF 22		DIST.	DCS M8232-0-1		B

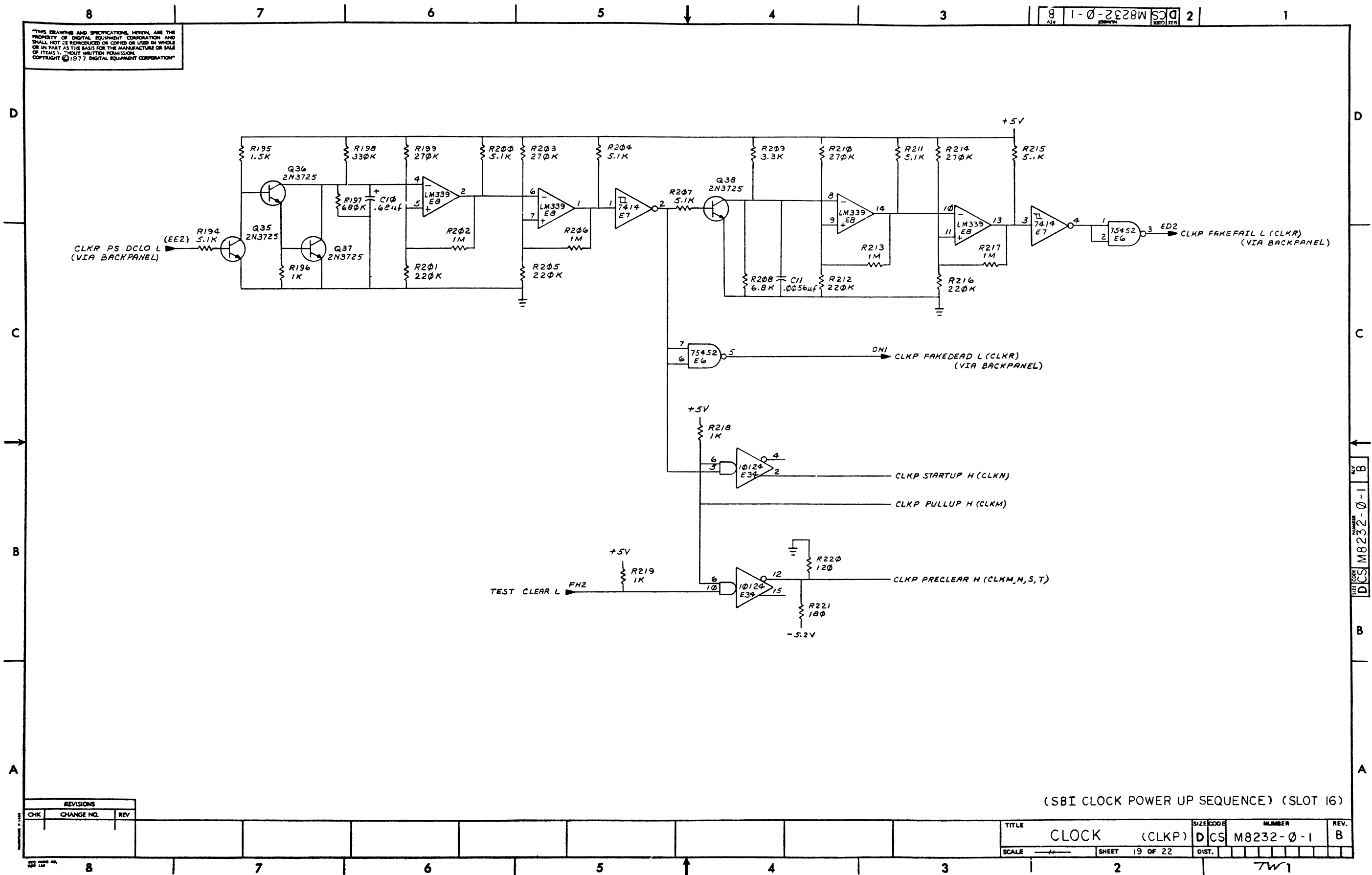
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

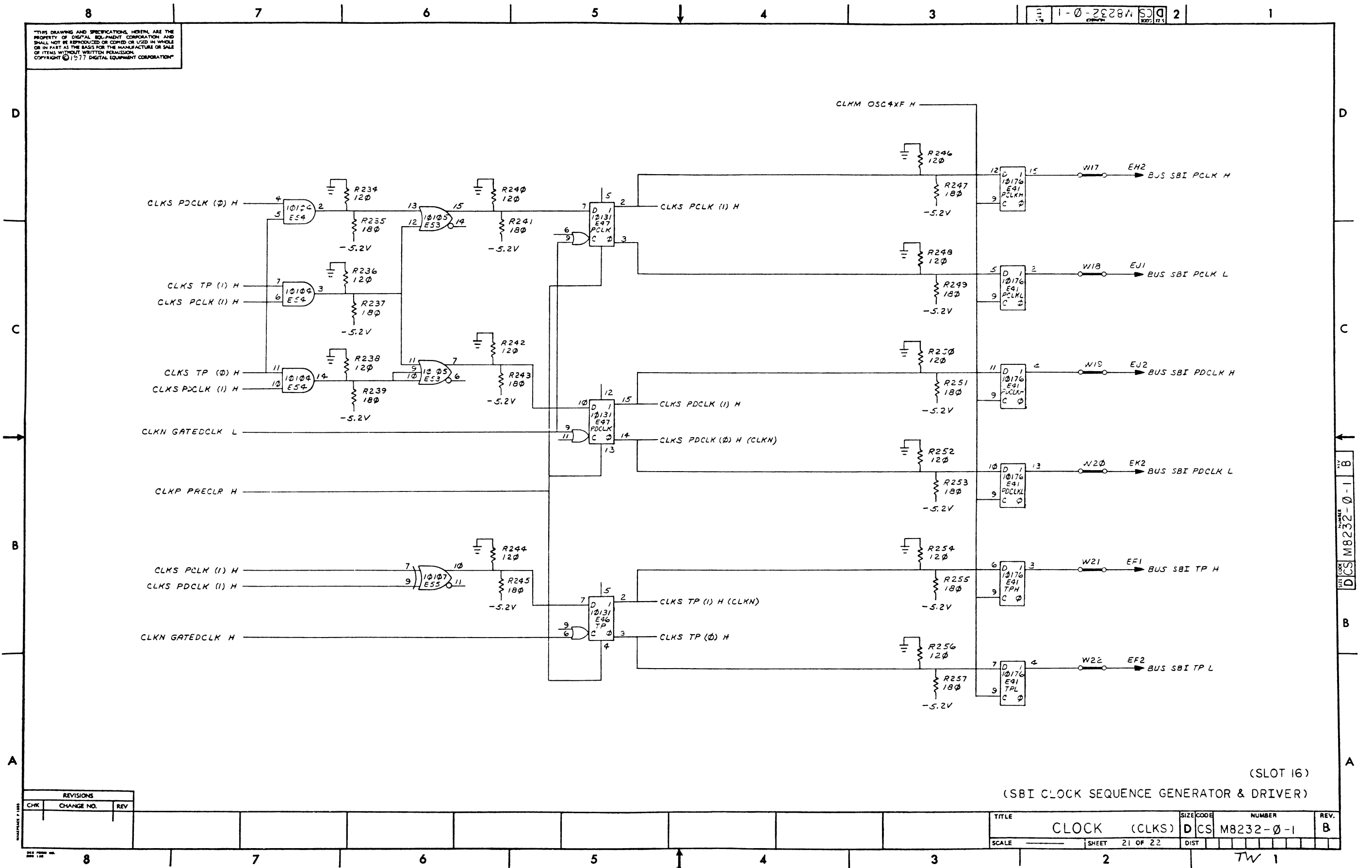
(SBI CLOCK START/STOP/STEP CONTROL) (SLOT 16)

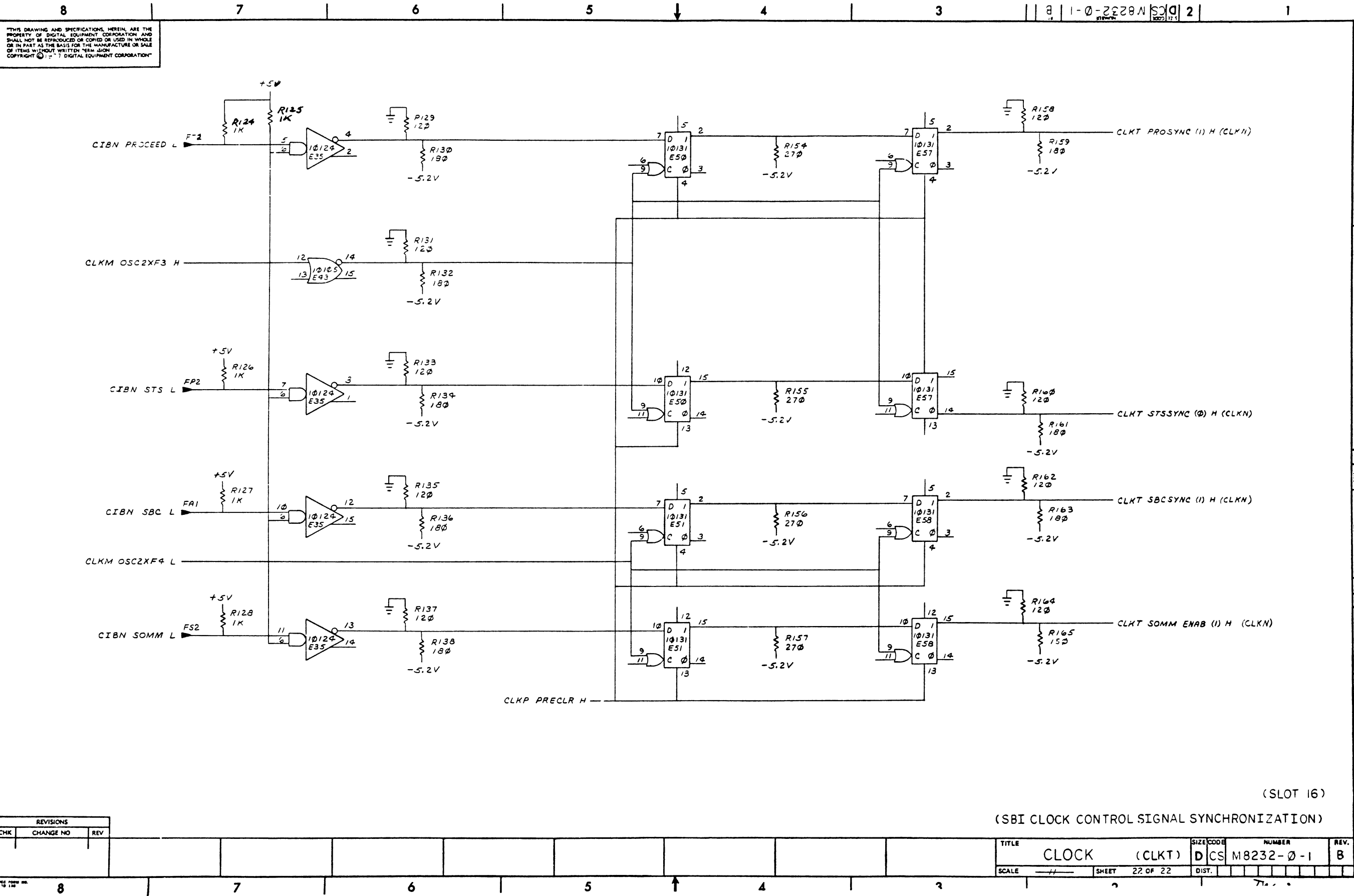
TITLE	SCALE	SHEET	NO. OF SHEETS	DATE	REV.
CLOCK (CLKN)	1:1	18 OF 22	22	1977	B



CLKP FAKEFAIL L (VIA BACKPANEL) CA1 W16 372 BUS SBI FAIL L (CONNECTED TO CV2 IN BACKPANEL)

REVISIONS			(POWER FAIL LEVEL TRANSLATION) (SLOT 16)																						
CHK	CHANGE NO.	REV.								TITLE		SIZE CODE		NUMBER		REV.									
												CLOCK (CLKR)		D	CS	M8232-0-1		B							
										SCALE		SHEET		DIST.											
										8		7		6		5		4		3		2		1	







AUTOMATED BY PRTLST.3M(41)

PARTS LIST

SHEET A1 OF A1

LINE ITEM DOCUMENT NUMBER

PART NUMBER

DESCRIPTION

QTY PER VARIATION
00

REFERENCE DESIGNATOR

1 E-MD-5014419-0-0

5014419-00

WCS (M8238)

1

2

1110324-00

LED 1MCD310MA PIV=3

1

3

1300247-00

120.0 .25 W 5.0 % CC

2

4

1300250-00

150.0 .25 W 5.0 % CC

2

5

1300365-00

1.0 K .25 W 5.0 % CC

6

6

1910534-00

74504 INVERTER GATE-HEX 1I

16

CONT

7

1910546-00

745140 NAND GATE-DUAL 4INPU

6

8

1910547-00

745153 MUX 1 OF 4 (DUAL)

2

9

1910549-00

745158 MUX 1 OF 2 (QUAD)

3

10

1911415-00

10125 ECL TO TTL TRANSLTR

1

11

1911573-00

745280 PARITY GEN/CHKR 9BIT

4

12

1912746-00

DEC 74537 NAND GATE-QUAD 2IN

1

13

1913462-00

745240 OCTAL BUFFER, INVERTI

49

CONT

CONT

14

1913788-00

26S10 TRANSCEIVER, BUS, QUA

8

15

23339A1-00

A1-07

1K MOS RAM 55NS 1

1

16

2116957-03

1K MOS RAM 55NS 1

49

CONT

CONT

17

1913662-01

RAM 1KX1 16 PIN TT

6

18

1012784-00

.047 MFD 50V +80-20% CER

48

19

1012084-01

8 MFD 25V +75-10% AL EL

7

20

1216988-02

HANDLE, MODULE, HEX TWO EJECTORS

1

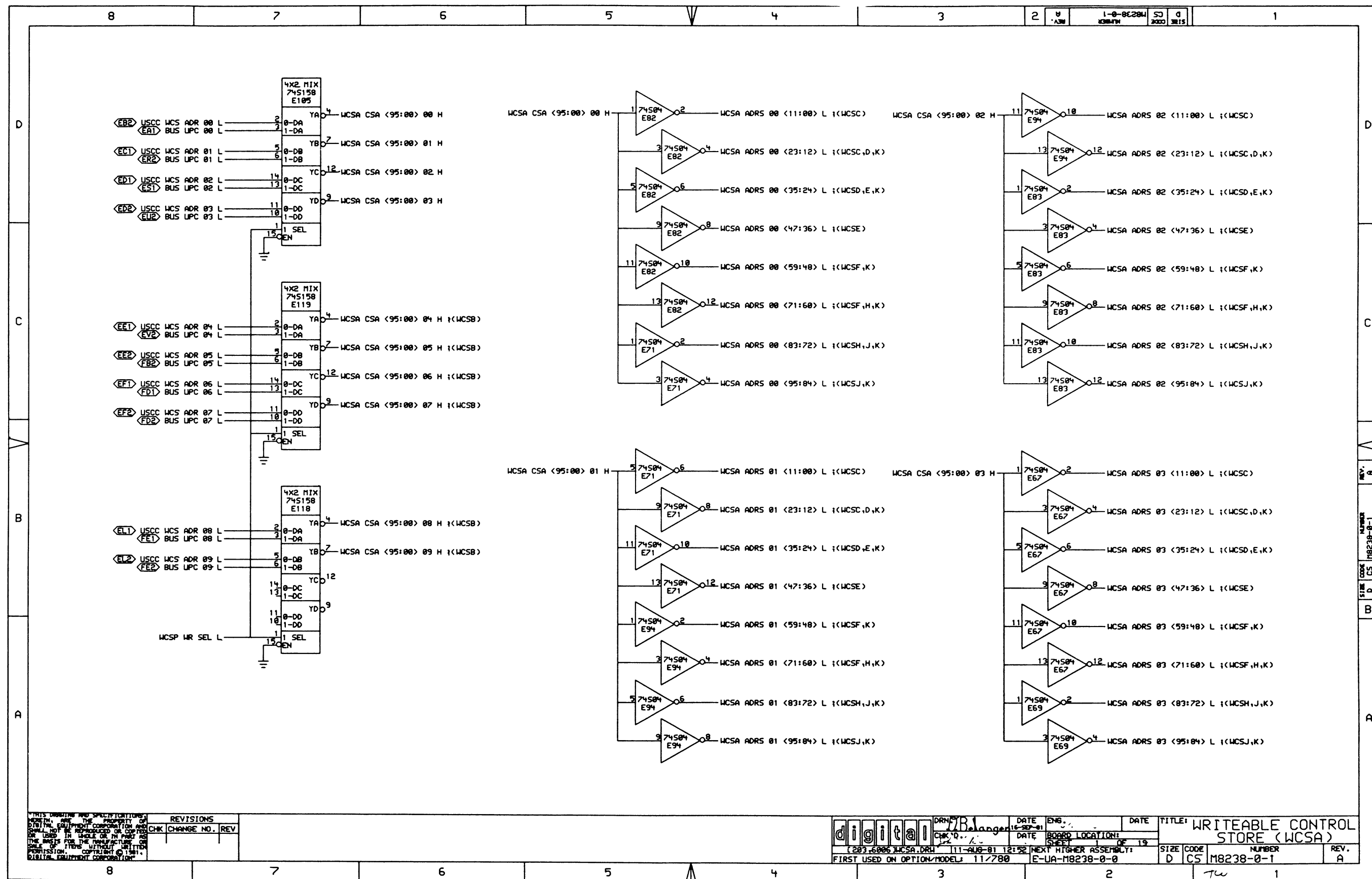
21

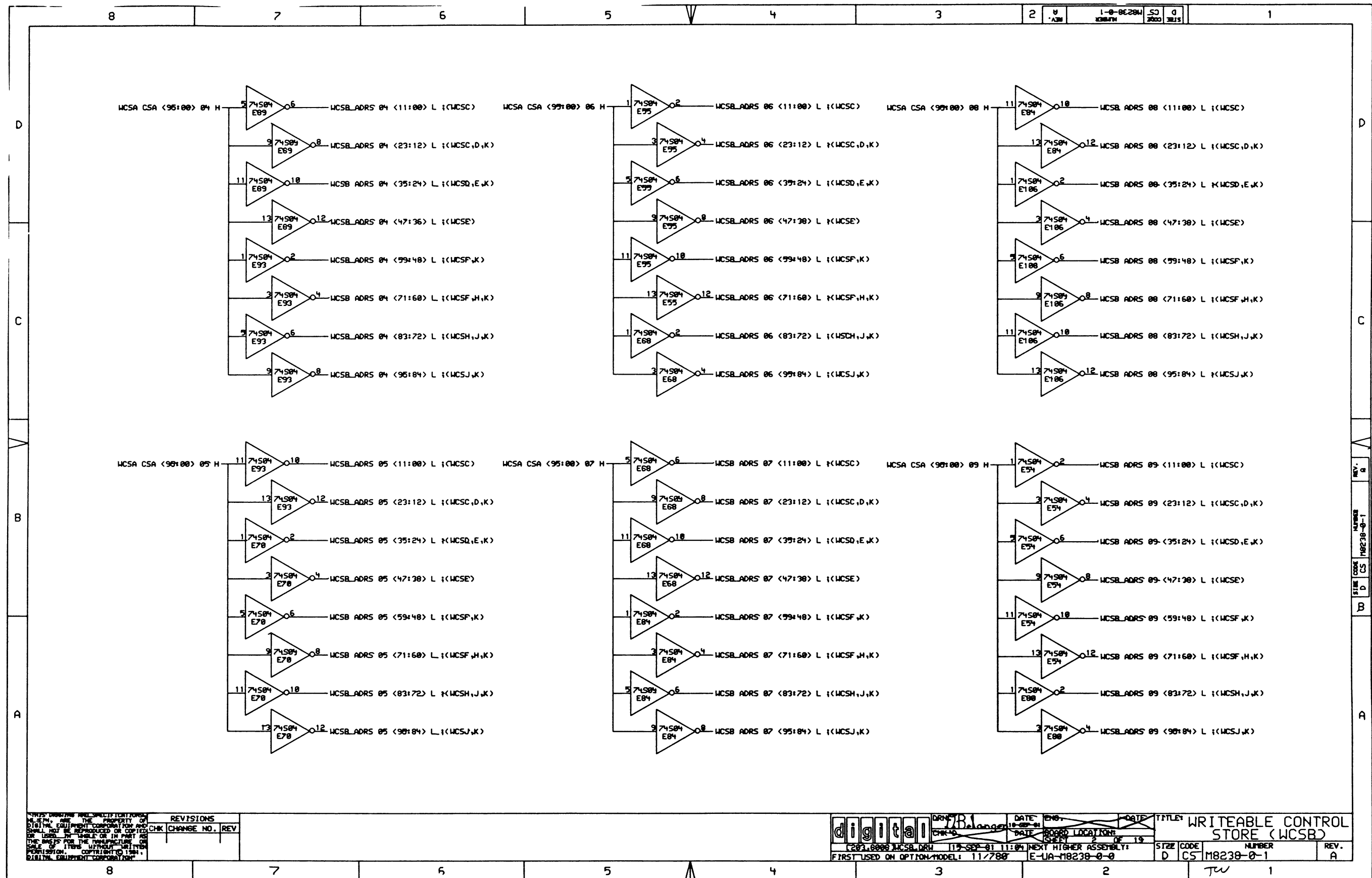
9000024-01

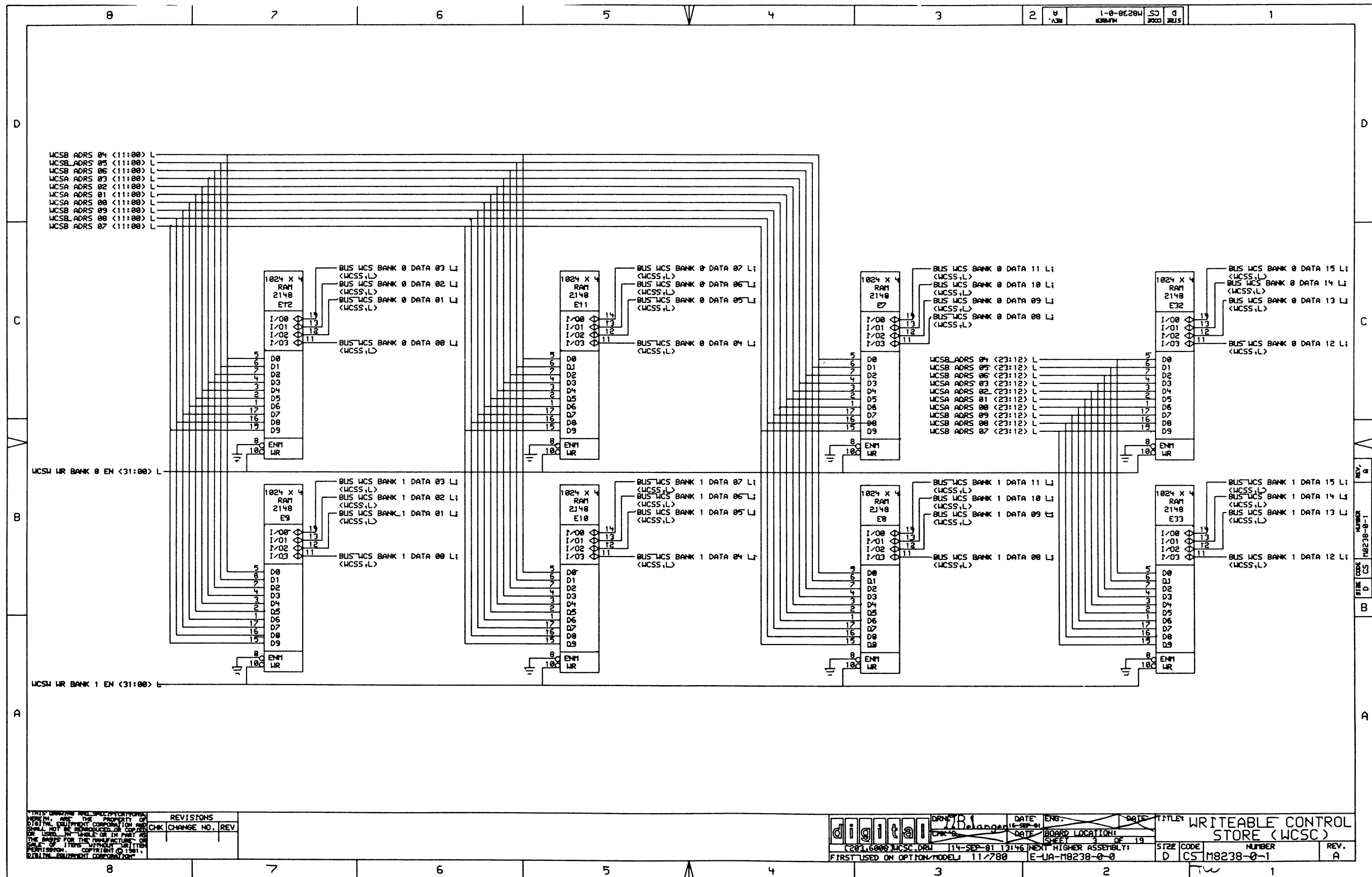
EYELET, ROLL FLANGE .1210DX .192

12

REVISION HISTORY			BASIC PART NO: M8238			DRN: J.CASEY			DATE: 07-OCT-81			D I G I T A L			
ENG	ECO NUMBER	REV	SECTION A OF A			CHK'D: E.T.GERRY			DATE: 07-OCT-81			TITLE PARTS LIST			
INITIAL		A	SECTION VARIATION INDEX			DES.ENG: J.BROWN			DATE: 07-OCT-81			DOCUMENT NUMBER			
			[A]	00			RESP.ENG.: J.BROWN			DATE: 07-OCT-81			SIZE CODE NUMBER REV		
			[B]				MFG.ENG.: K.MEISSNER			DATE: 07-OCT-81			K PL M8238-0-DBP A		
			[C]				ASSEMBLY NUMBER:			TOP DOCUMENT NUMBER:			FILE NAME: EDIT #		
			[D]				E-UA-M8238-0-0			B-DD-M8238-0-0			Z1286A.PLS S		
			[E]				"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT (C) 1981. DIGITAL EQUIPMENT CORPORATION"								
			[F]												
			[G]												







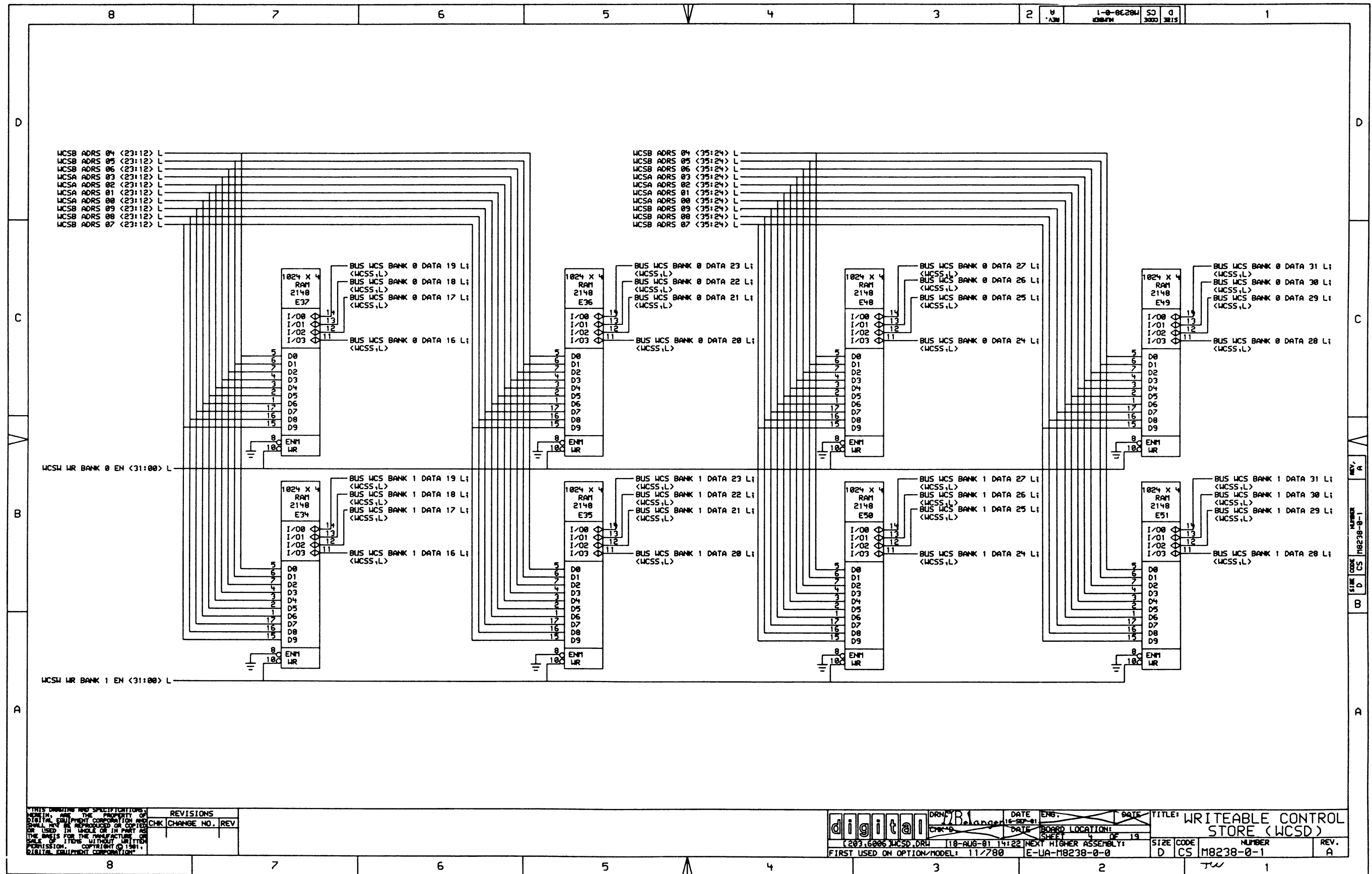
D
C
B
A

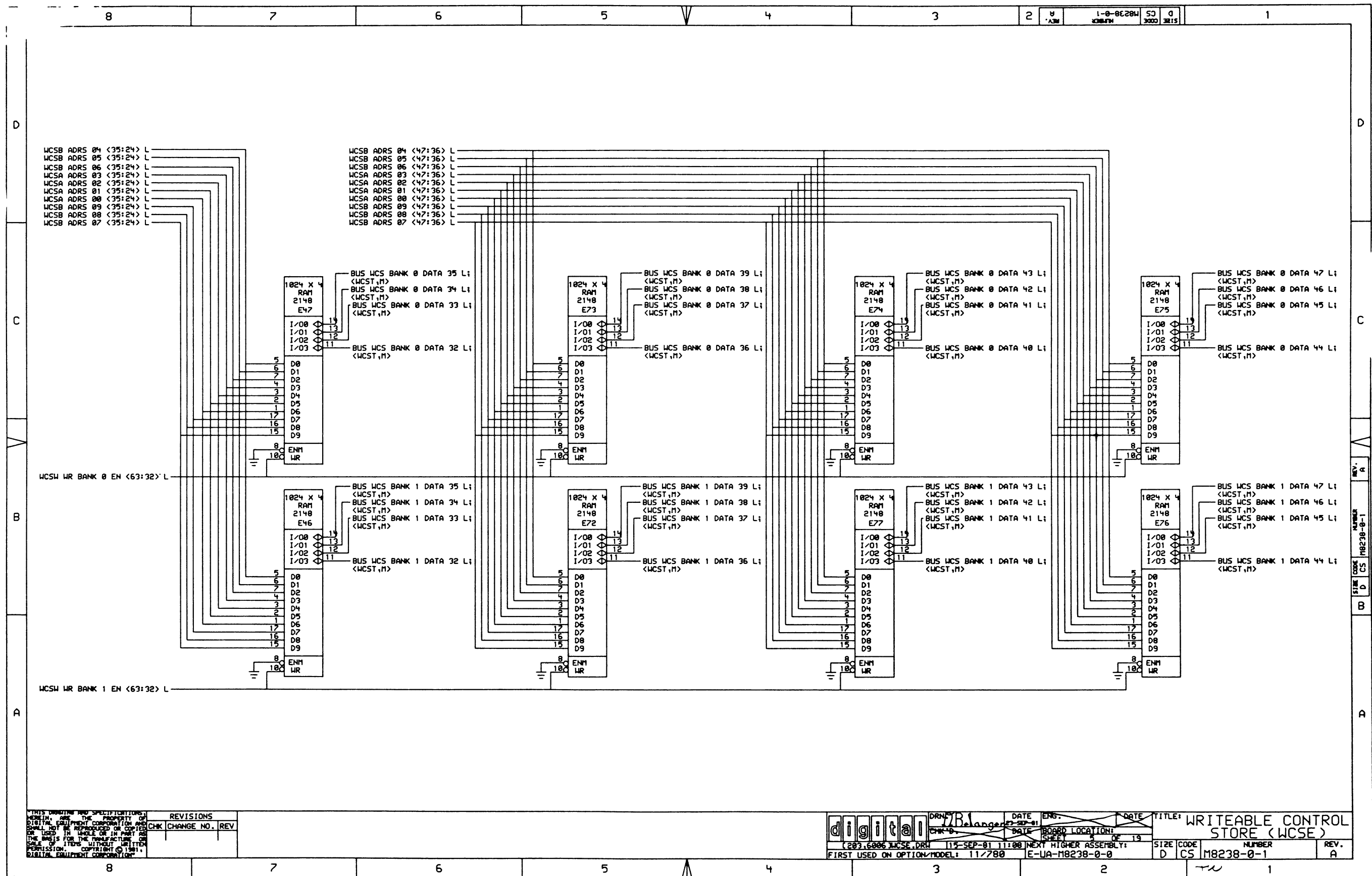
REV. A
NUMBER M8238-0-1
CS
B

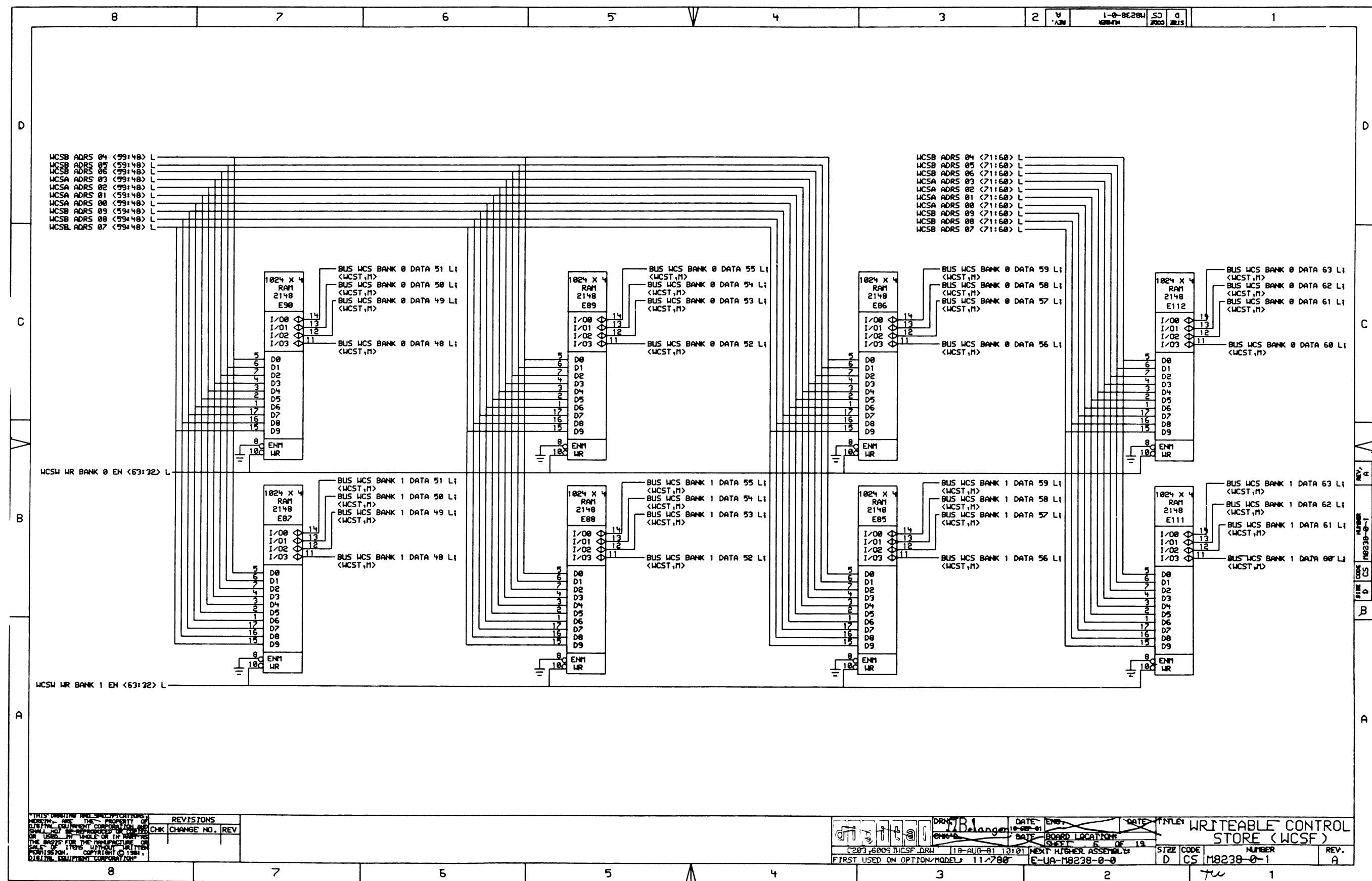
A

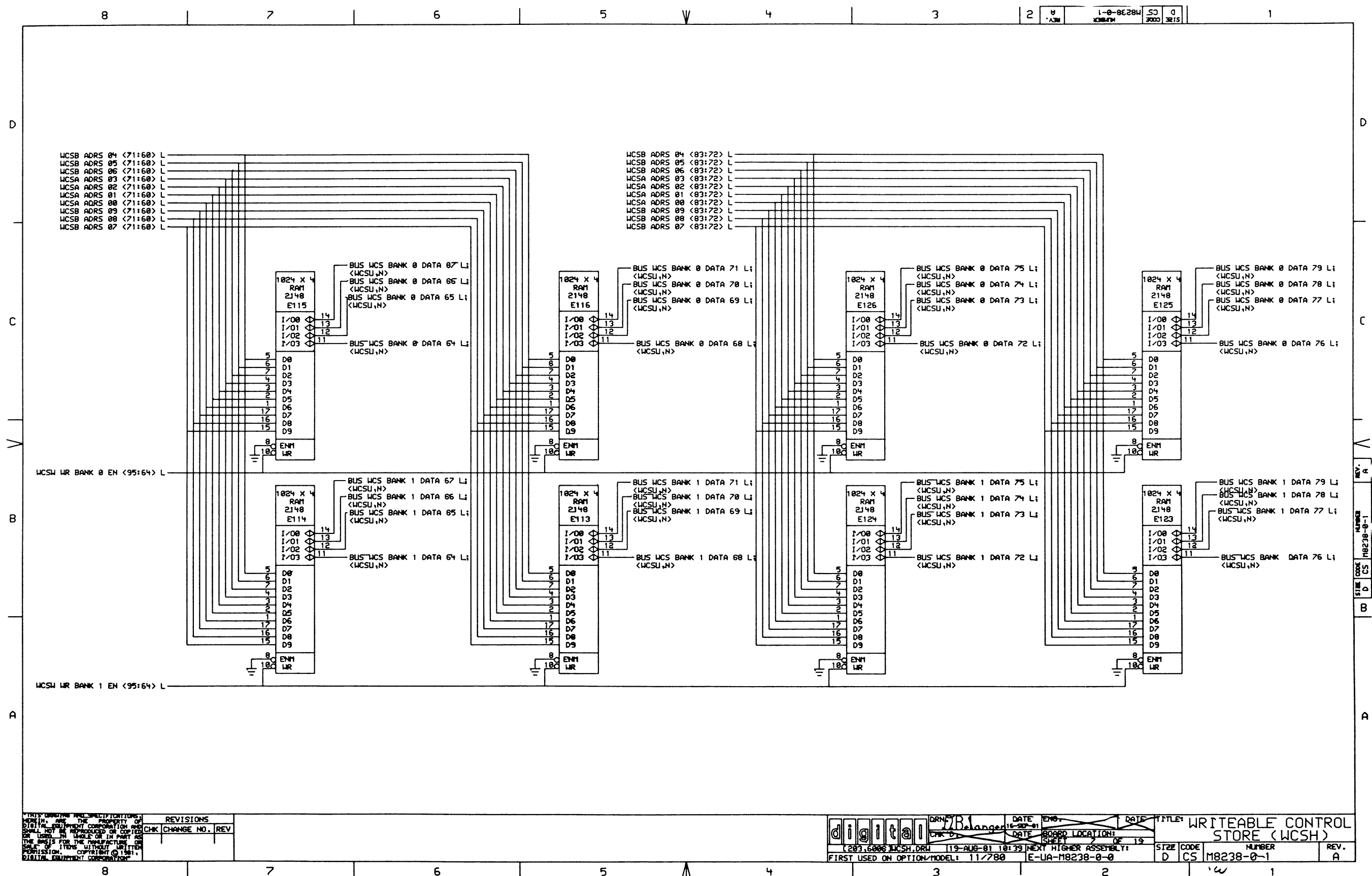
REVISIONS		
CHK	CHANGE NO.	REV

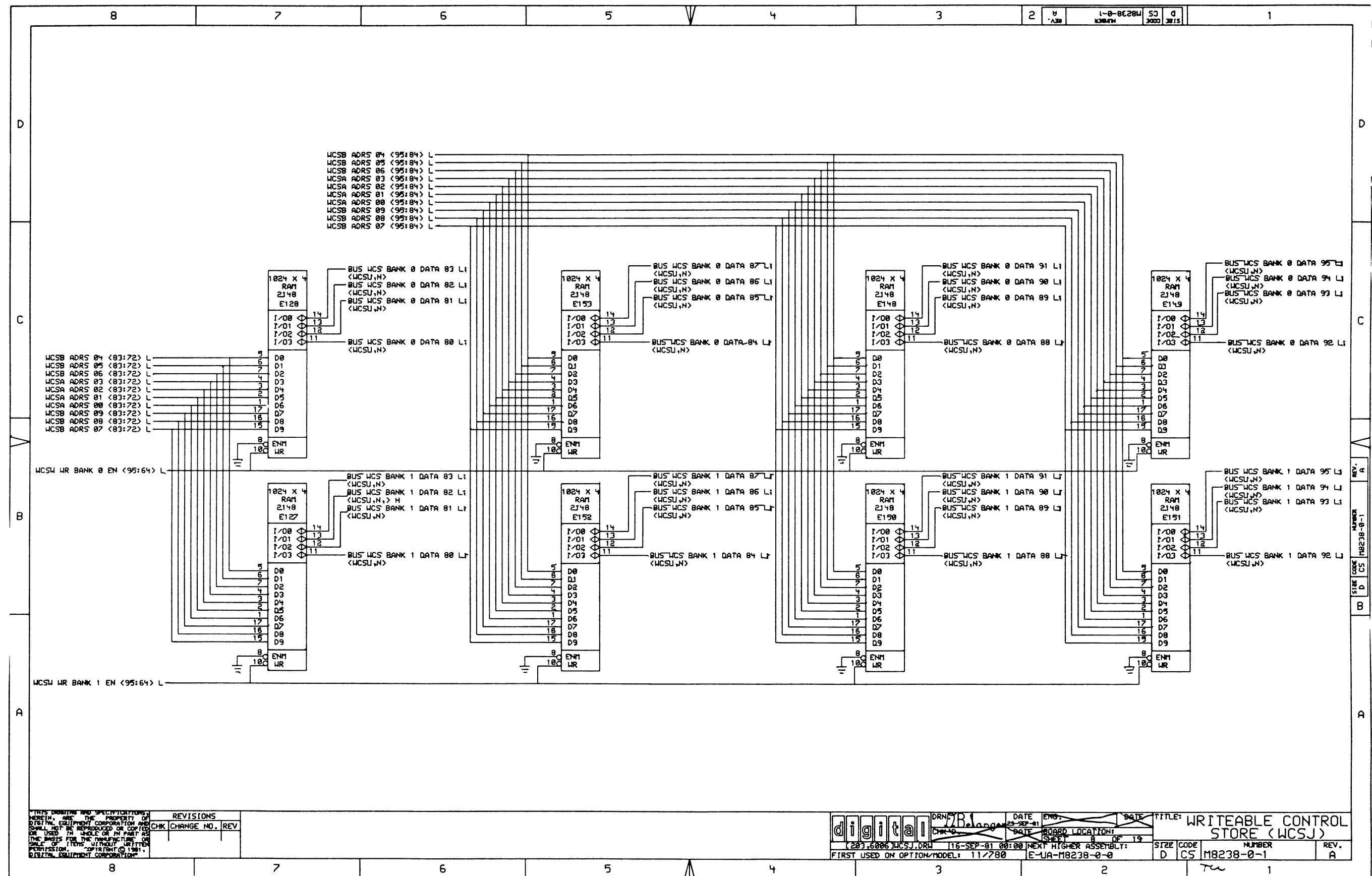
digital	DATE	ENG.	DATE	TITLE
	11-SEP-81	13:46	11-SEP-81	WRITEABLE CONTROL STORE (WCSC)
FIRST USED ON OPTION MODEL 11/780		NEXT HIGHER ASSEMBLY: E-UA-M8238-0-0		SIZE CODE
				NUMBER
				REV. A

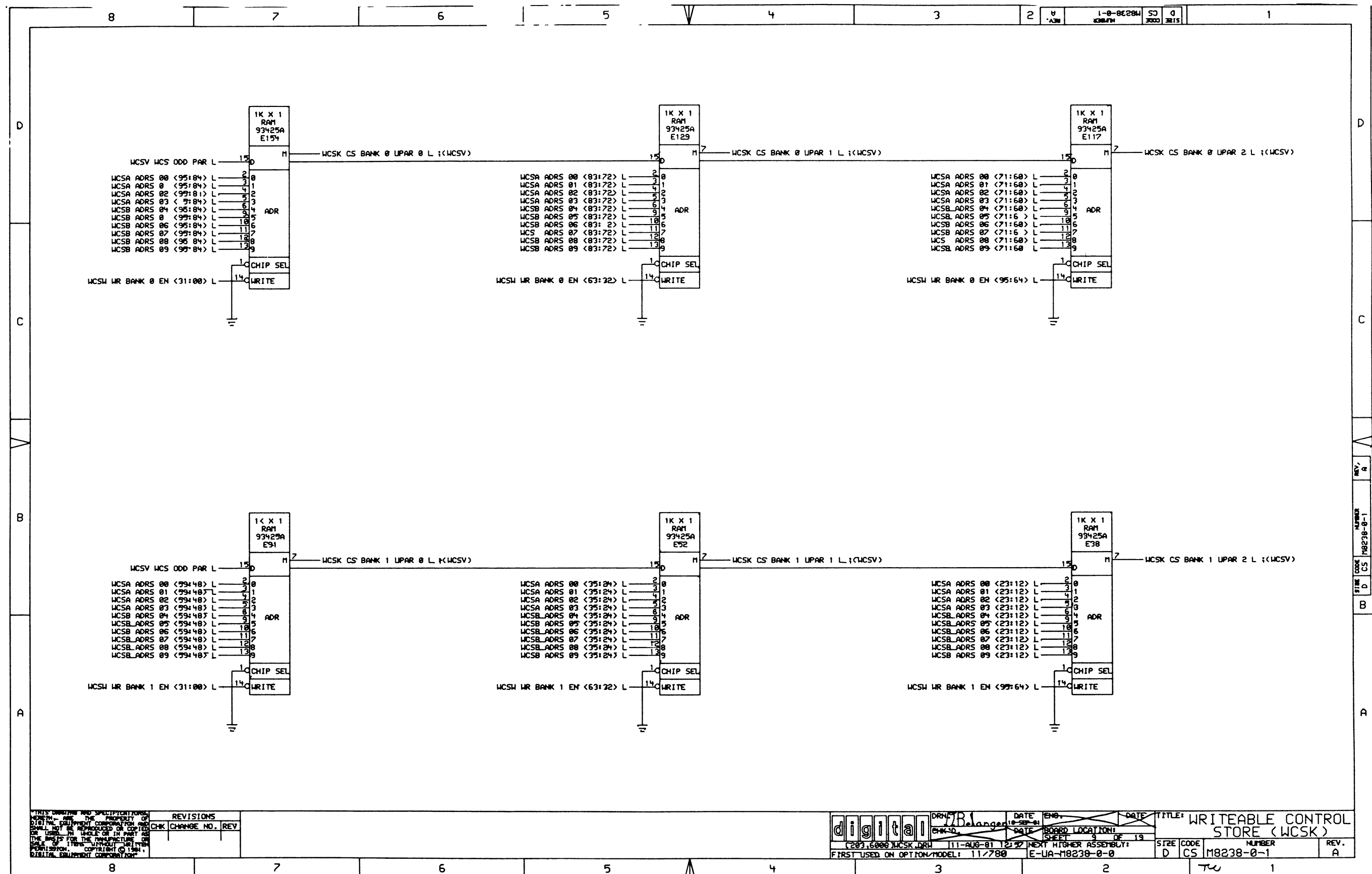


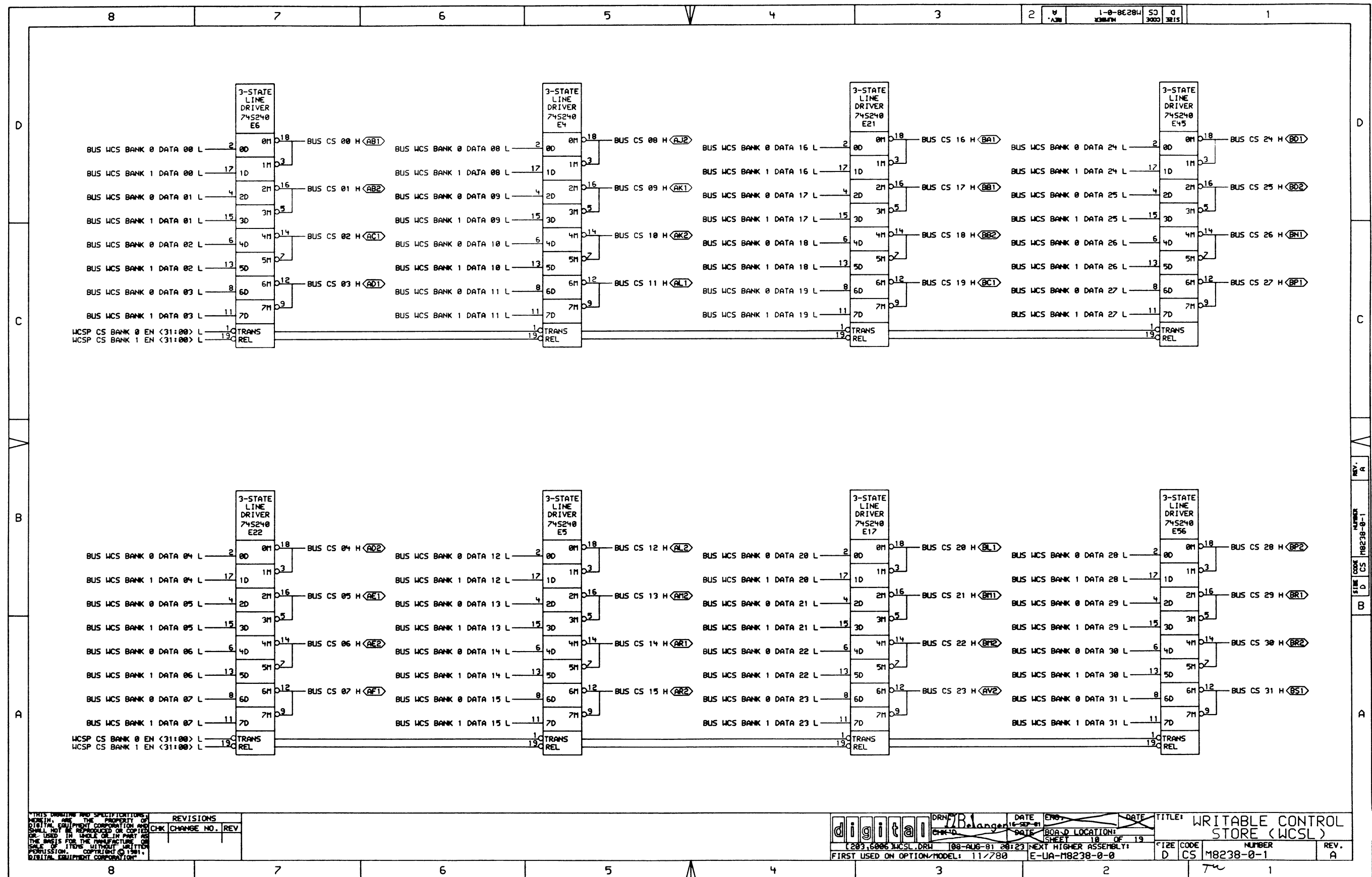


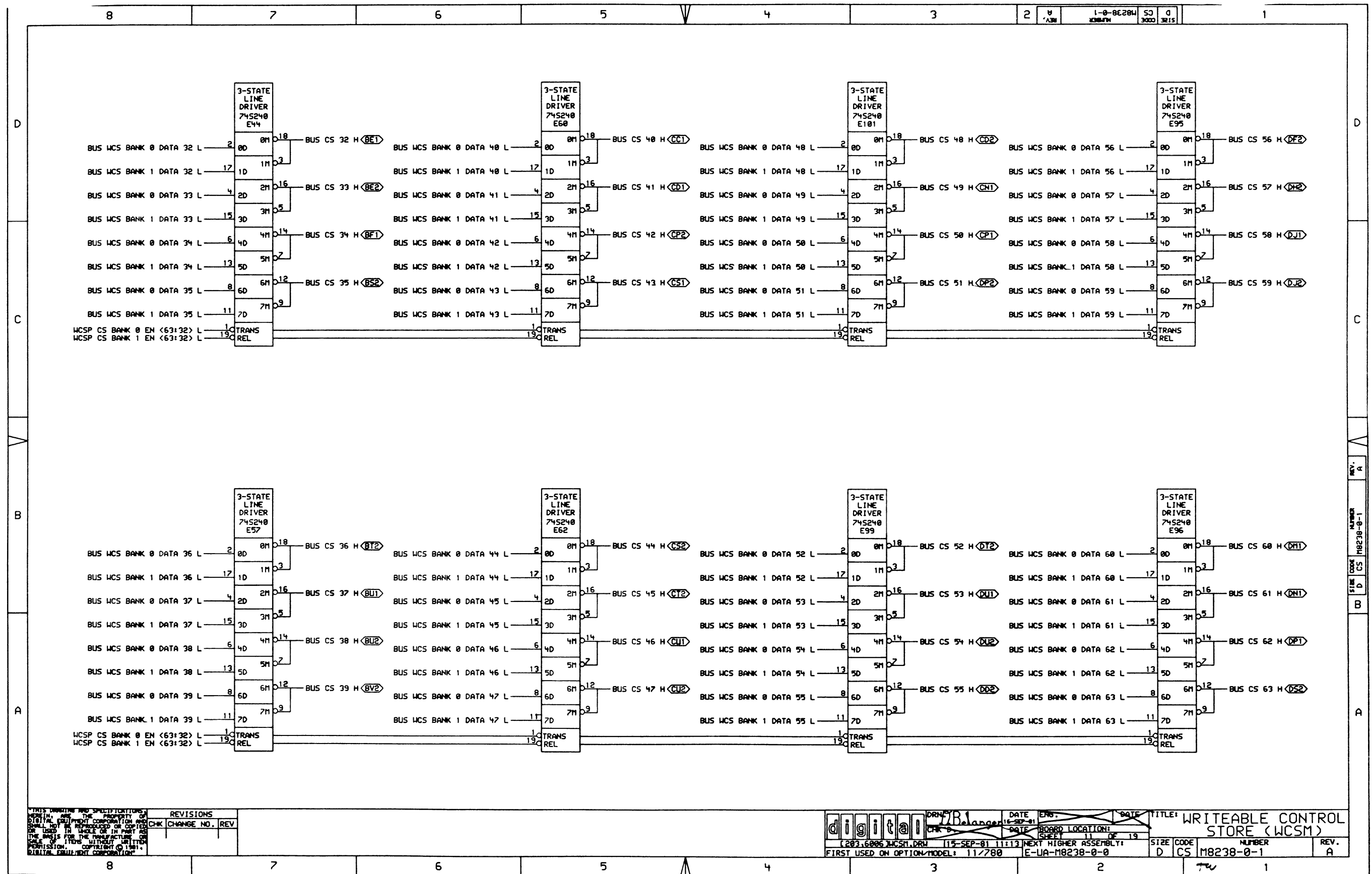


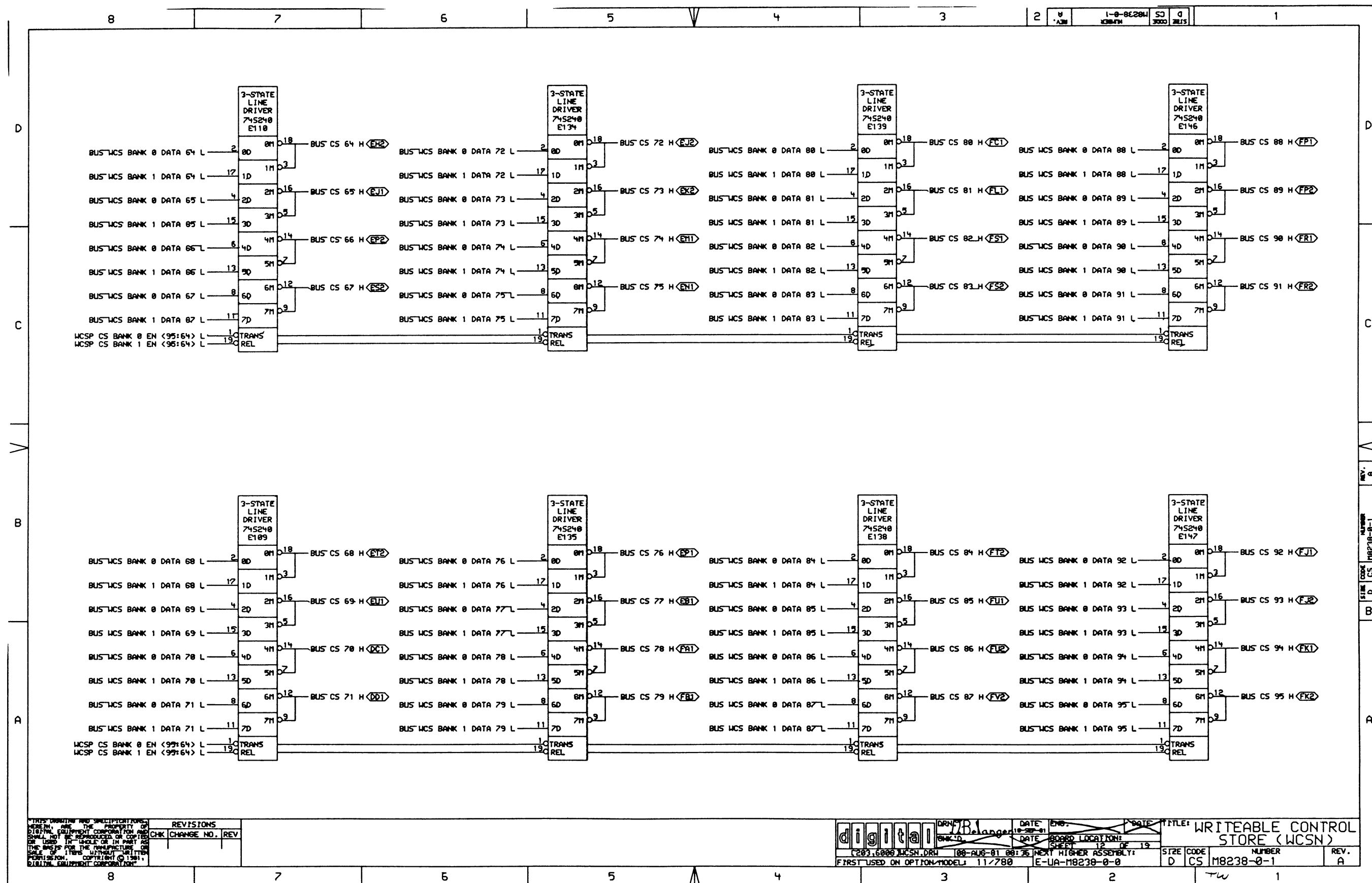


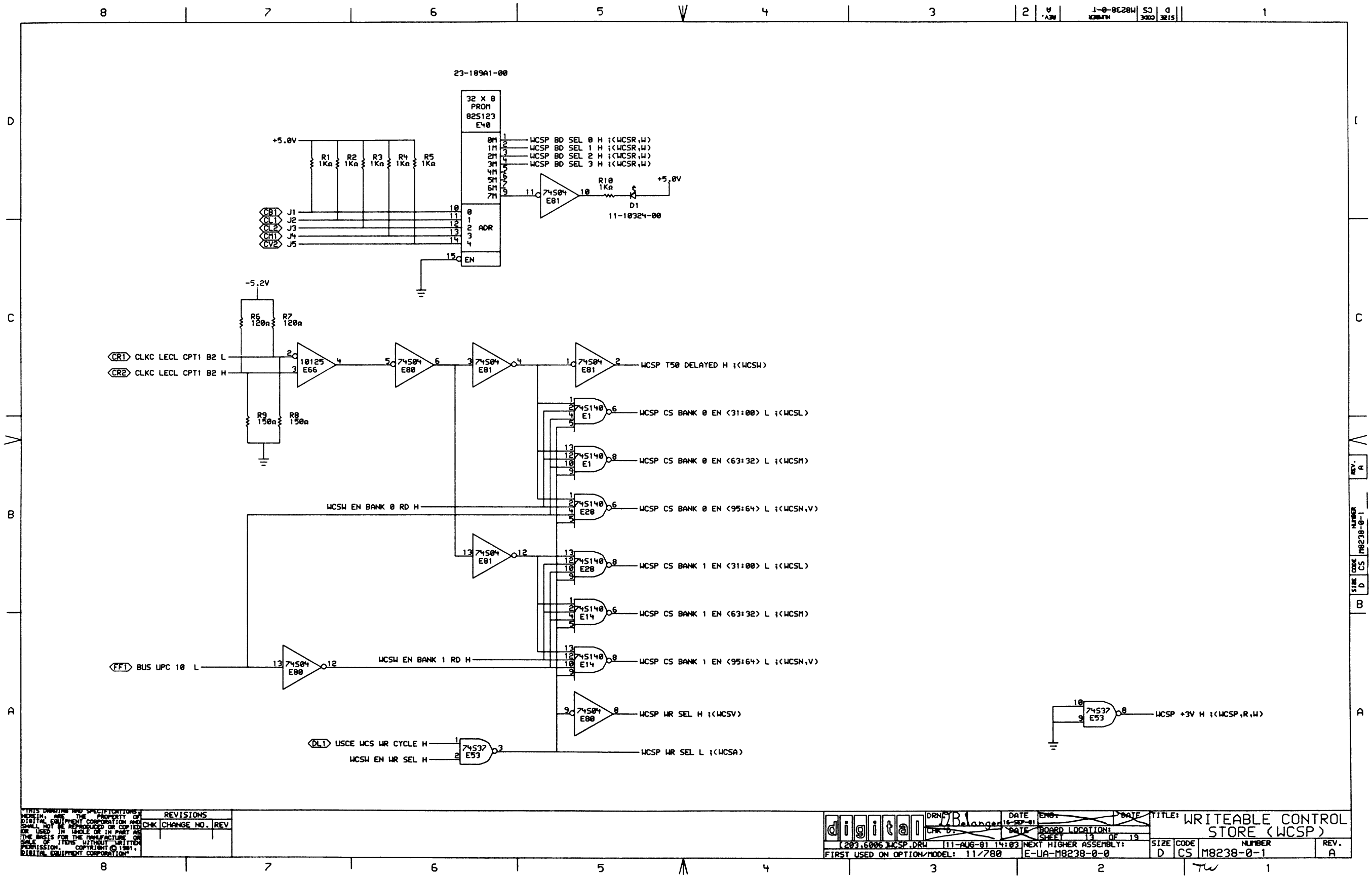








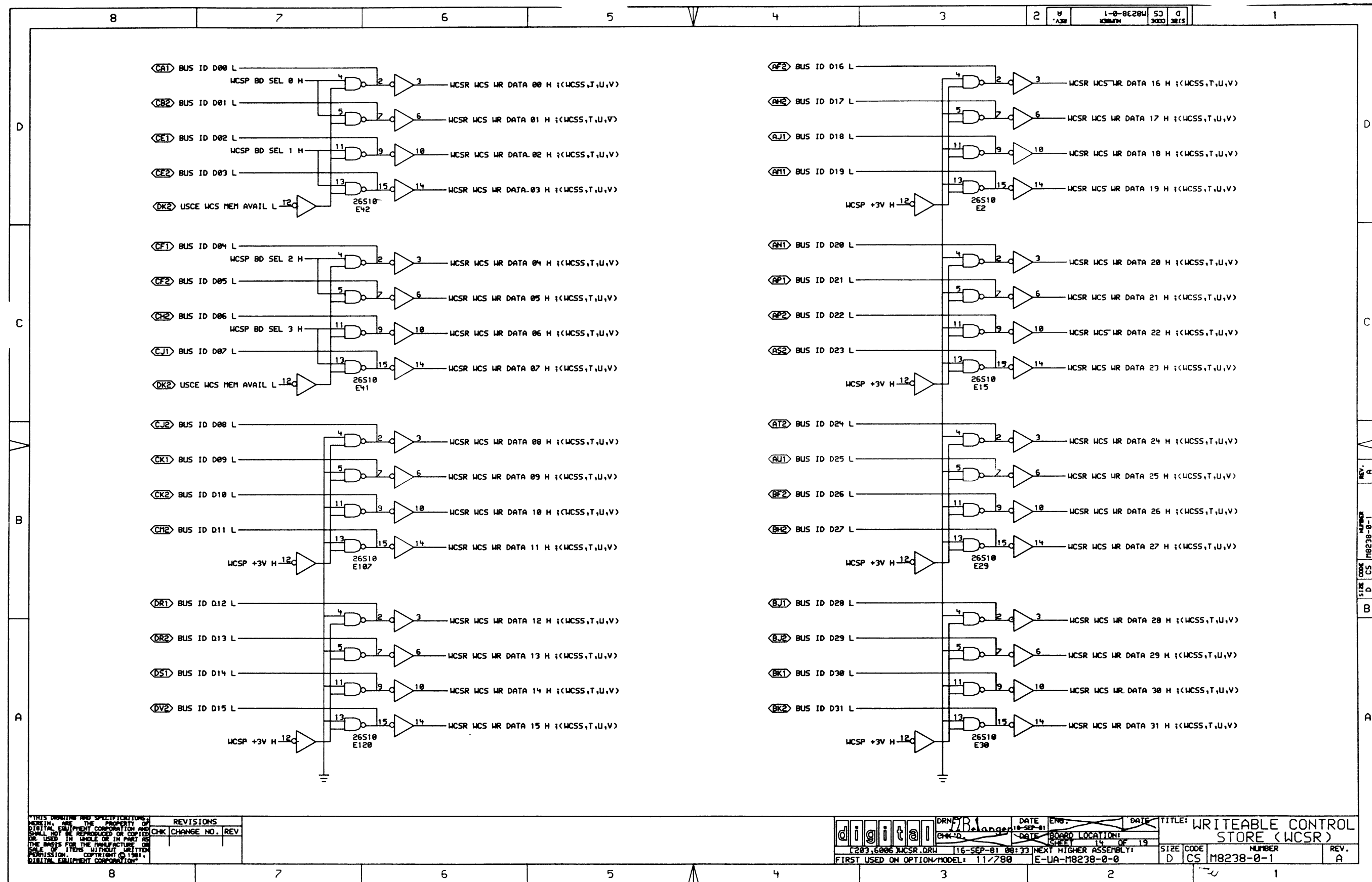




THIS DRAWING AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1981, DIGITAL EQUIPMENT CORPORATION

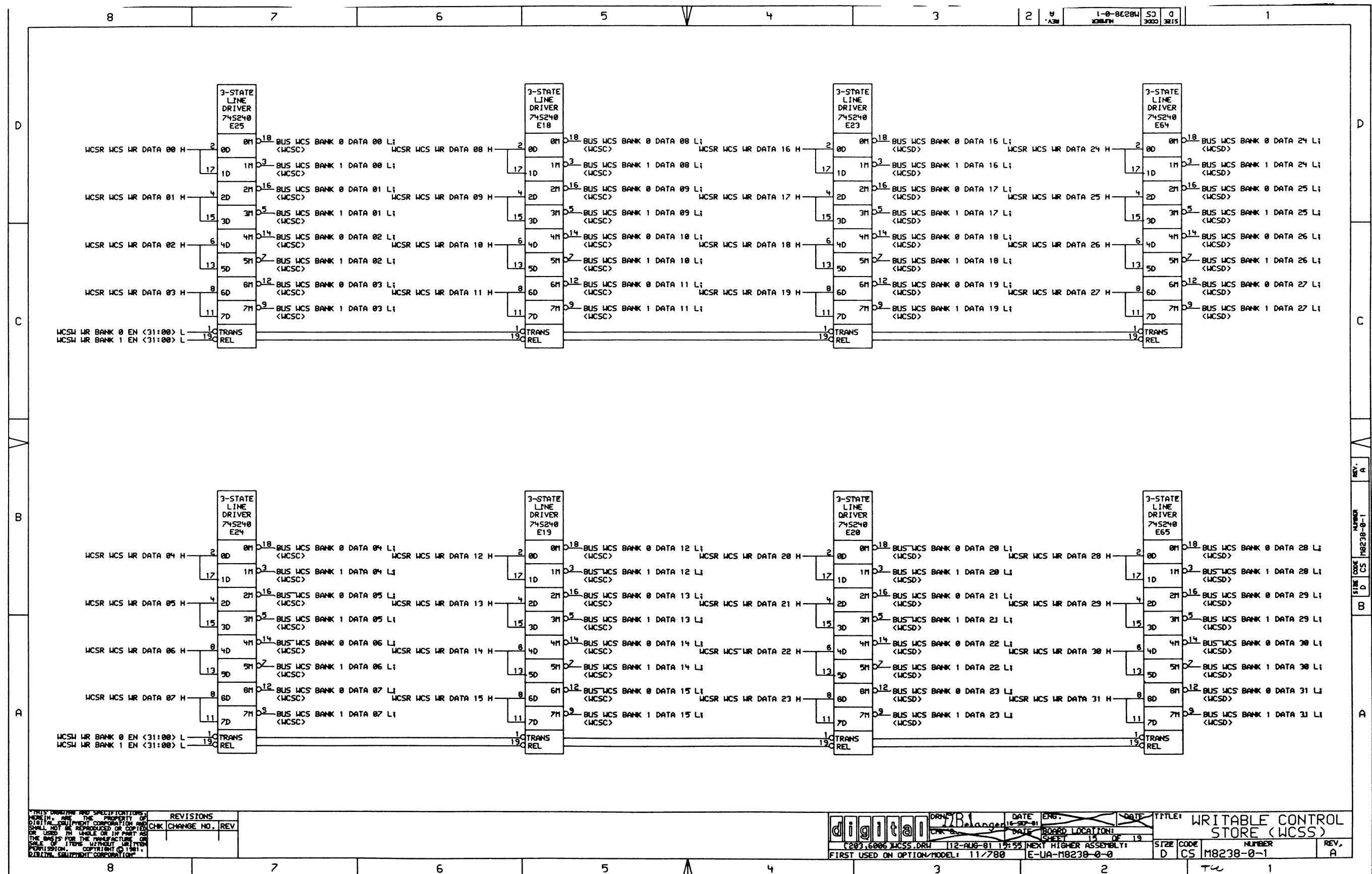
REVISIONS		
CHK	CHANGE NO.	REV

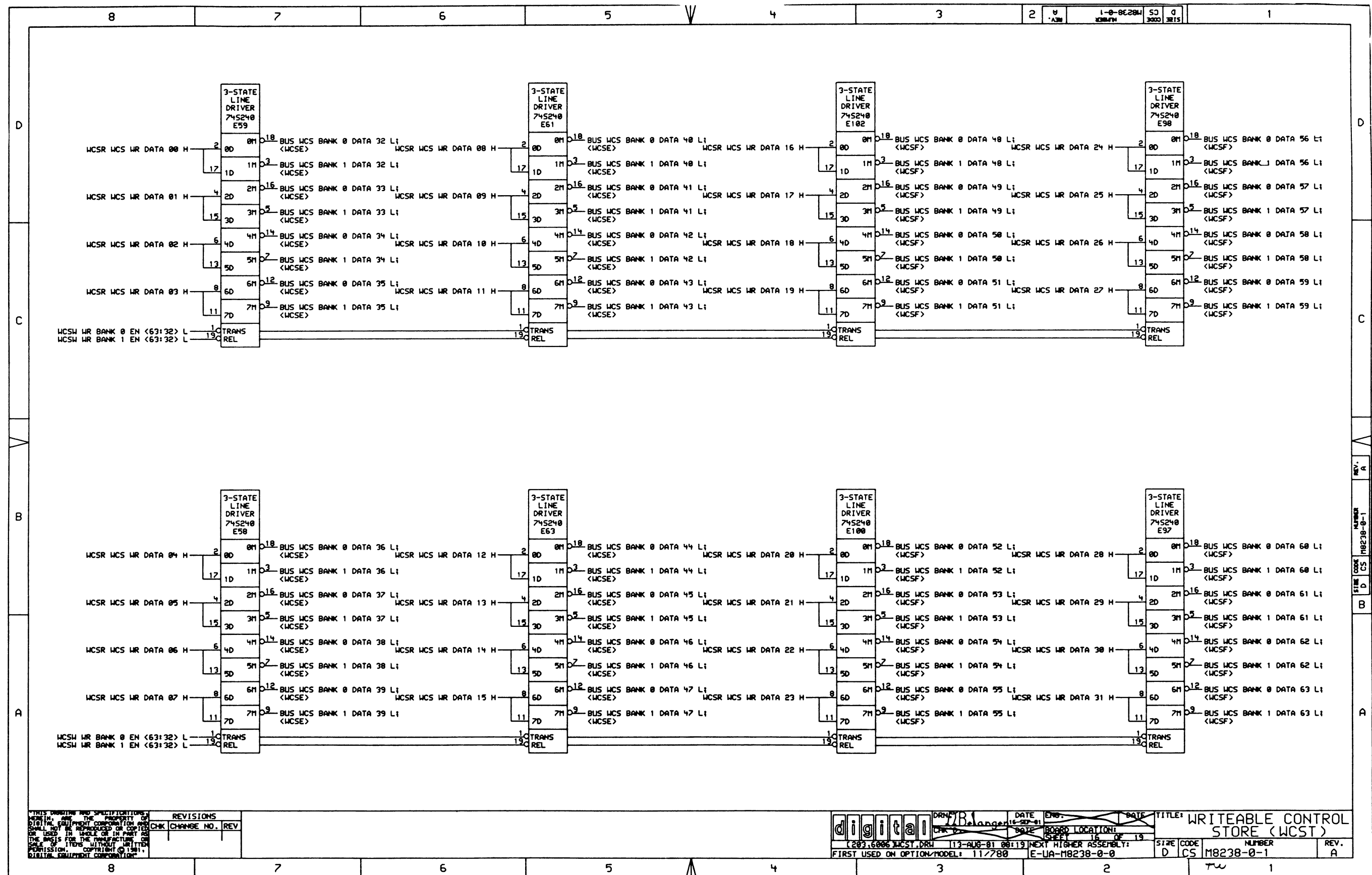
digital	DRN/REV	DATE	ENG.	DATE	TITLE: WRITEABLE CONTROL STORE (WCSP)
	CHK-B	11-10324-00	11-10324-00	11-10324-00	11-10324-00
FIRST USED ON OPTION/MODEL: 11/780		NEXT HIGHER ASSEMBLY: E-UA-M8238-0-0		SIZE CODE	NUMBER
				D	CS M8238-0-1
				REV.	A

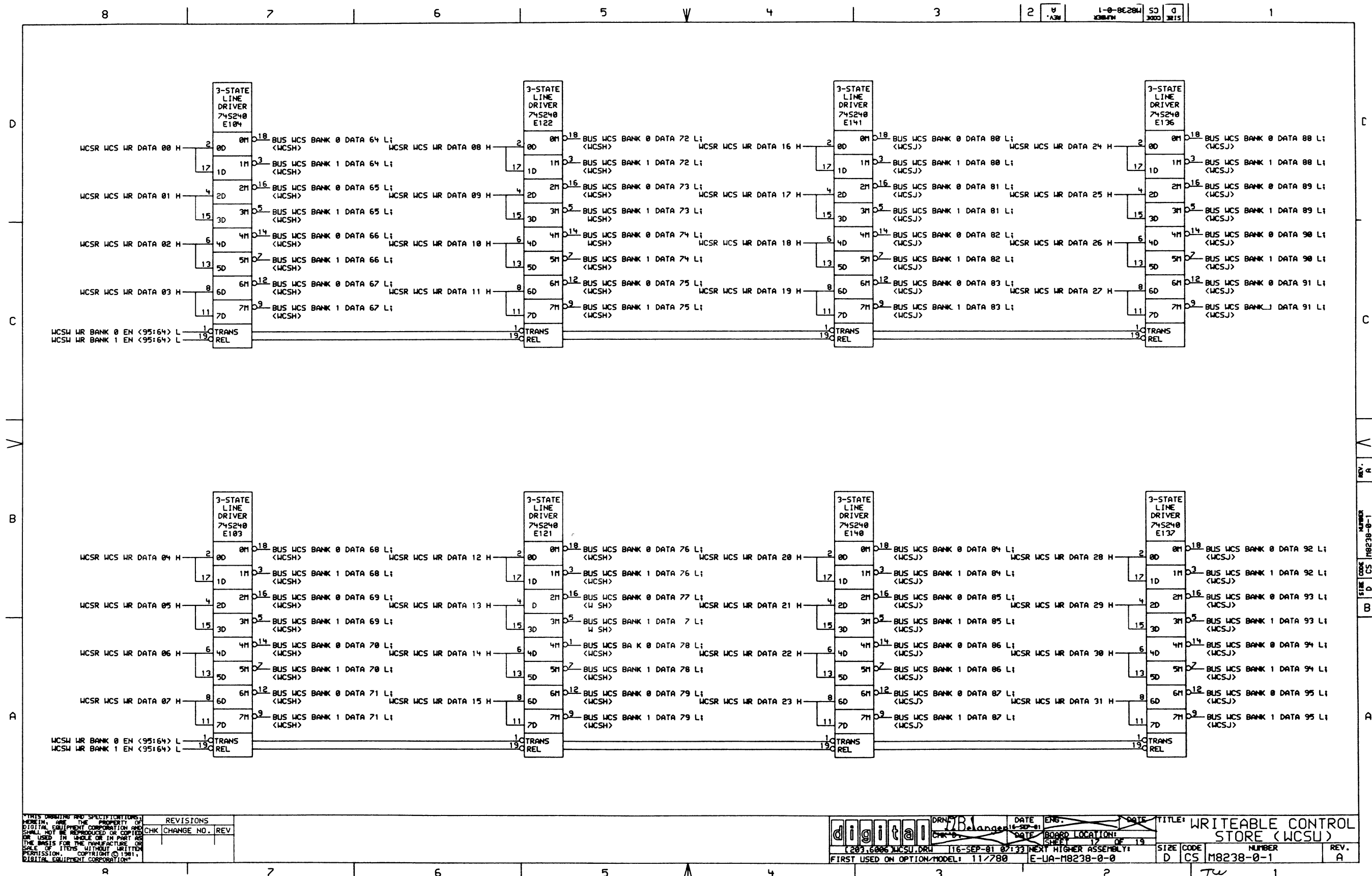


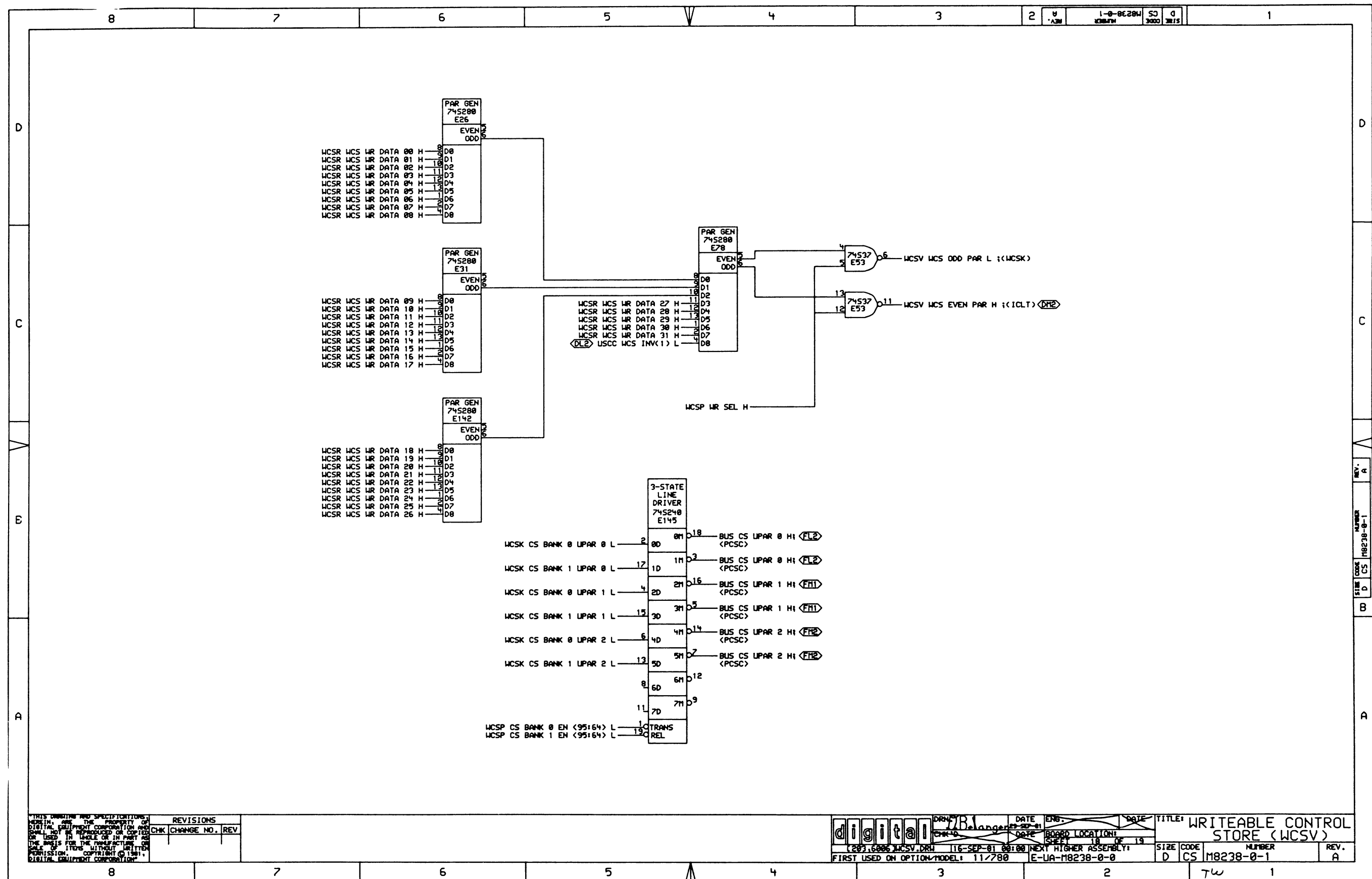
REVISIONS		
CHK	CHANGE NO.	REV

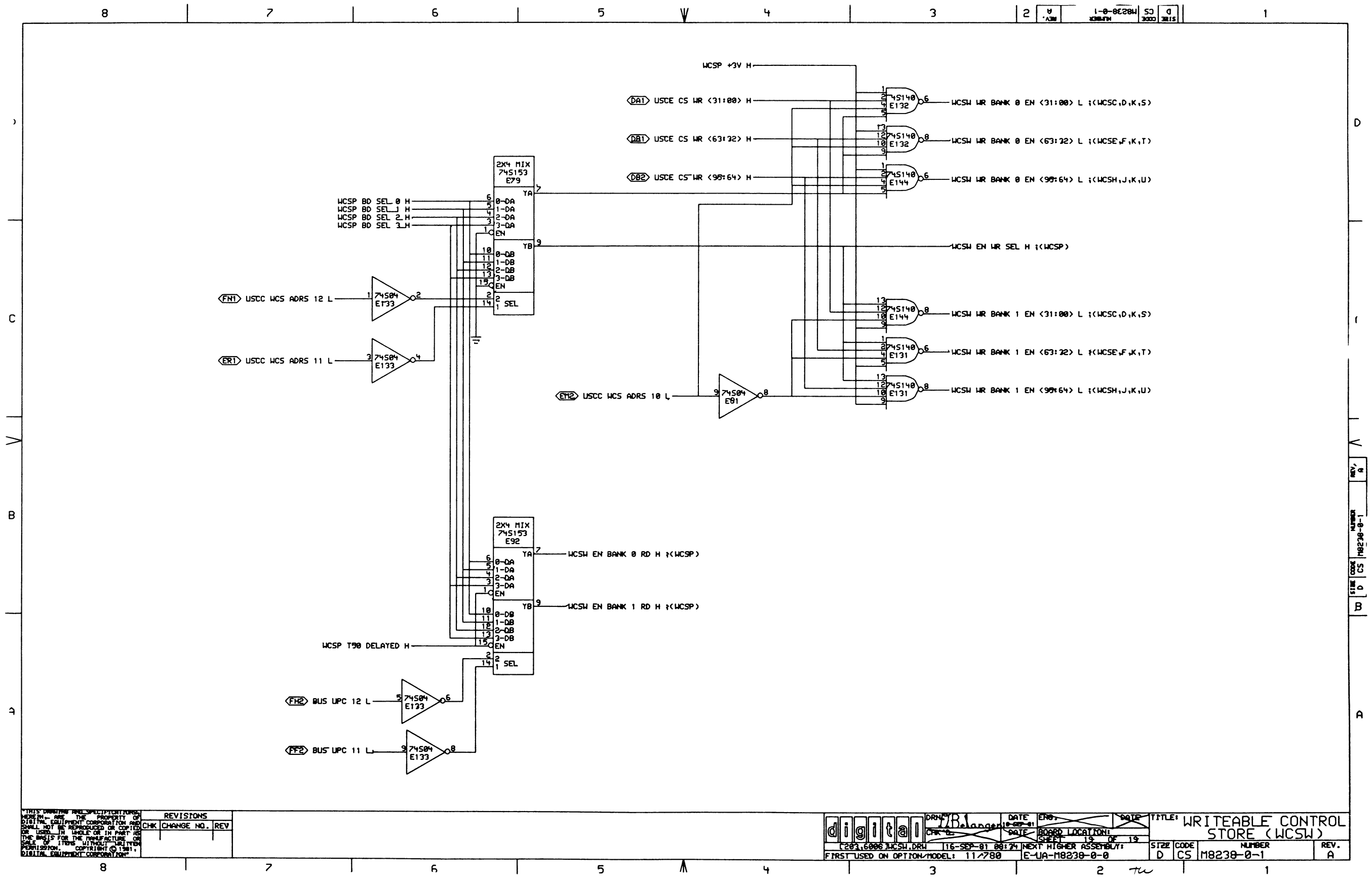
digital		DATE	ENG.	DATE	TITLE
116-SEP-81 08133		10-SEP-81			WRITEABLE CONTROL STORE (WCSR)
FIRST USED ON OPTION/MODEL: 11/780		NEXT HIGHER ASSEMBLY: E-UA-M8238-0-0		SIZE	CODE
				D	CS
				NUMBER	REV.
				M8238-0-1	A











D

I

REV. A

NUMBER

CS M8238-0-1

FILE D

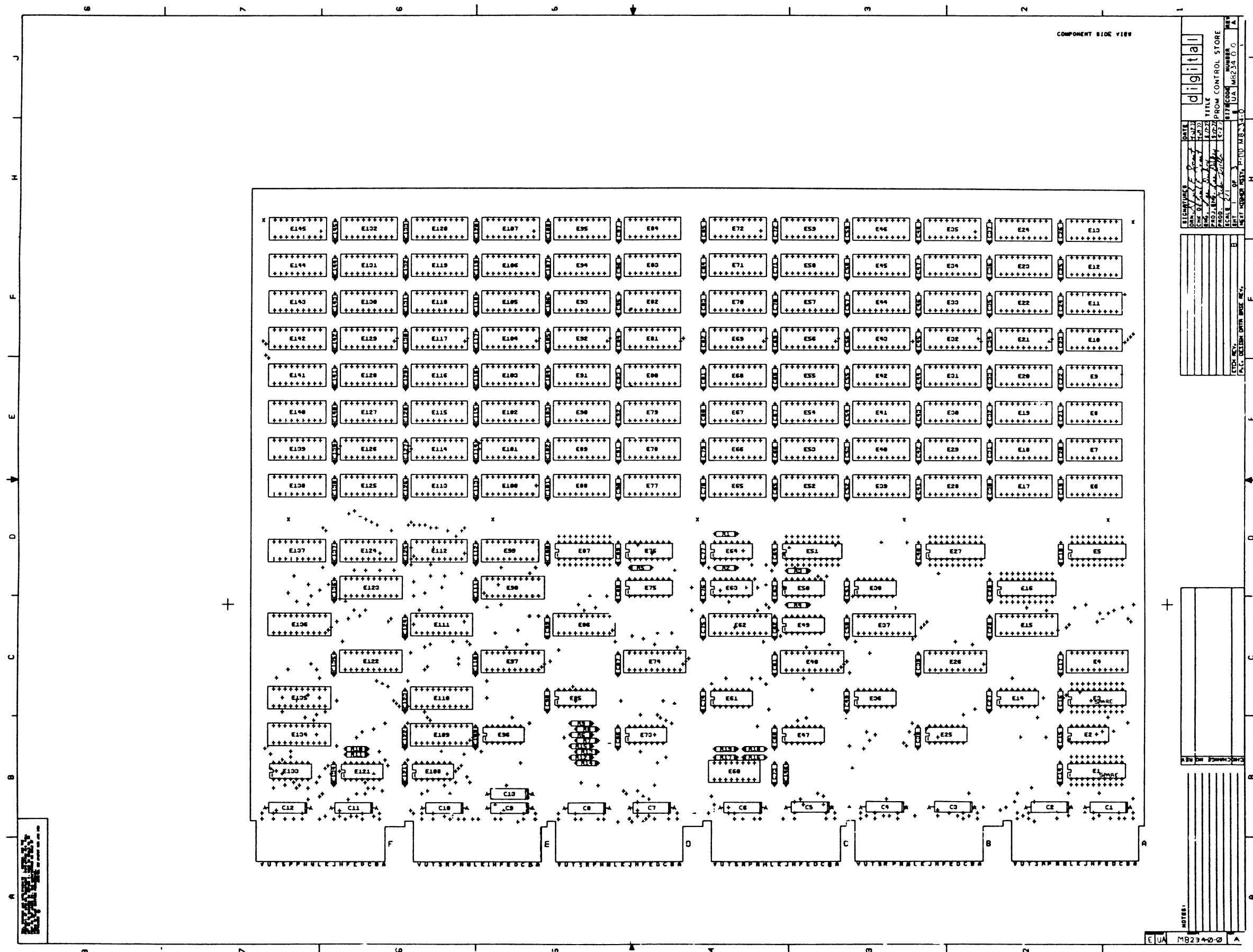
B

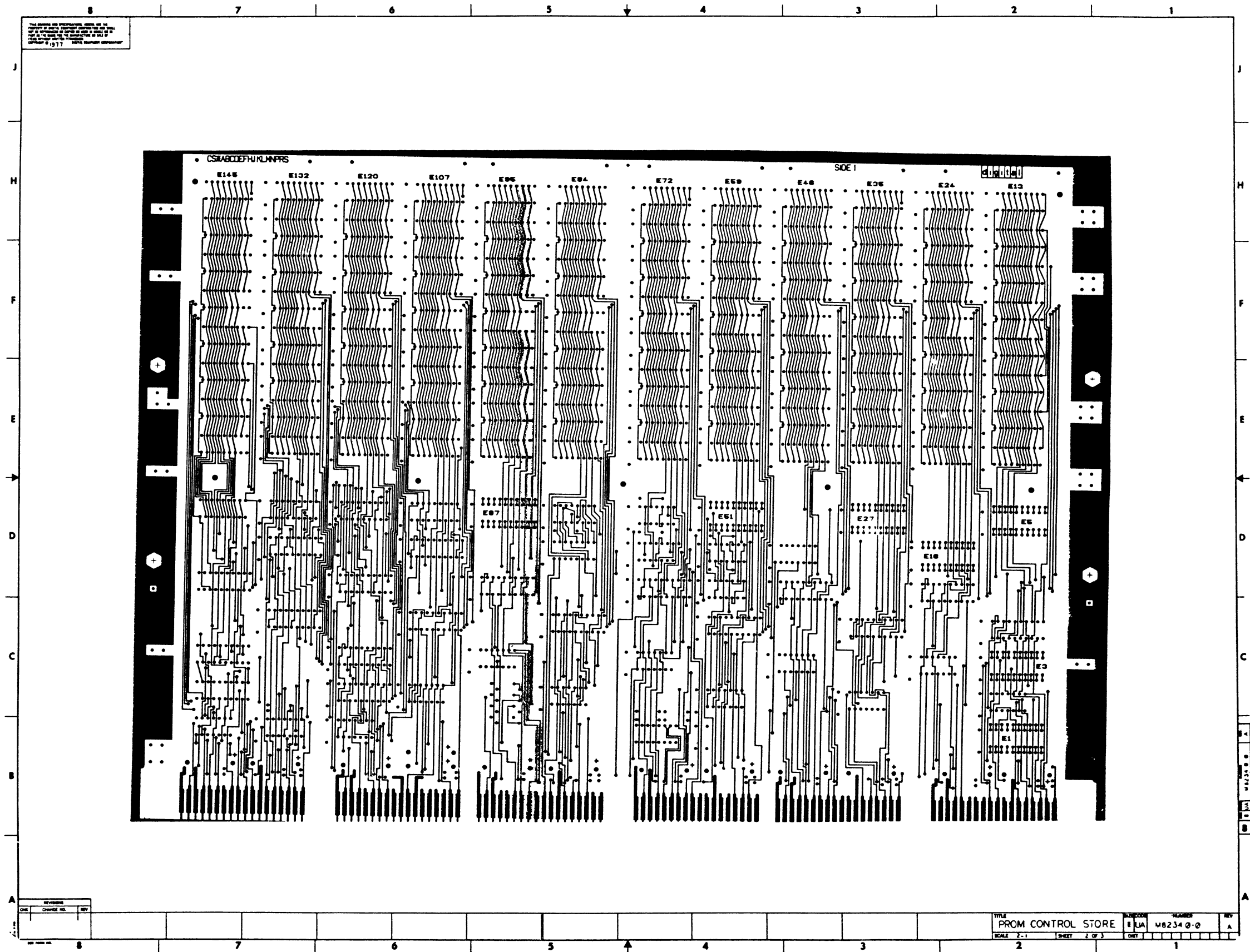
A

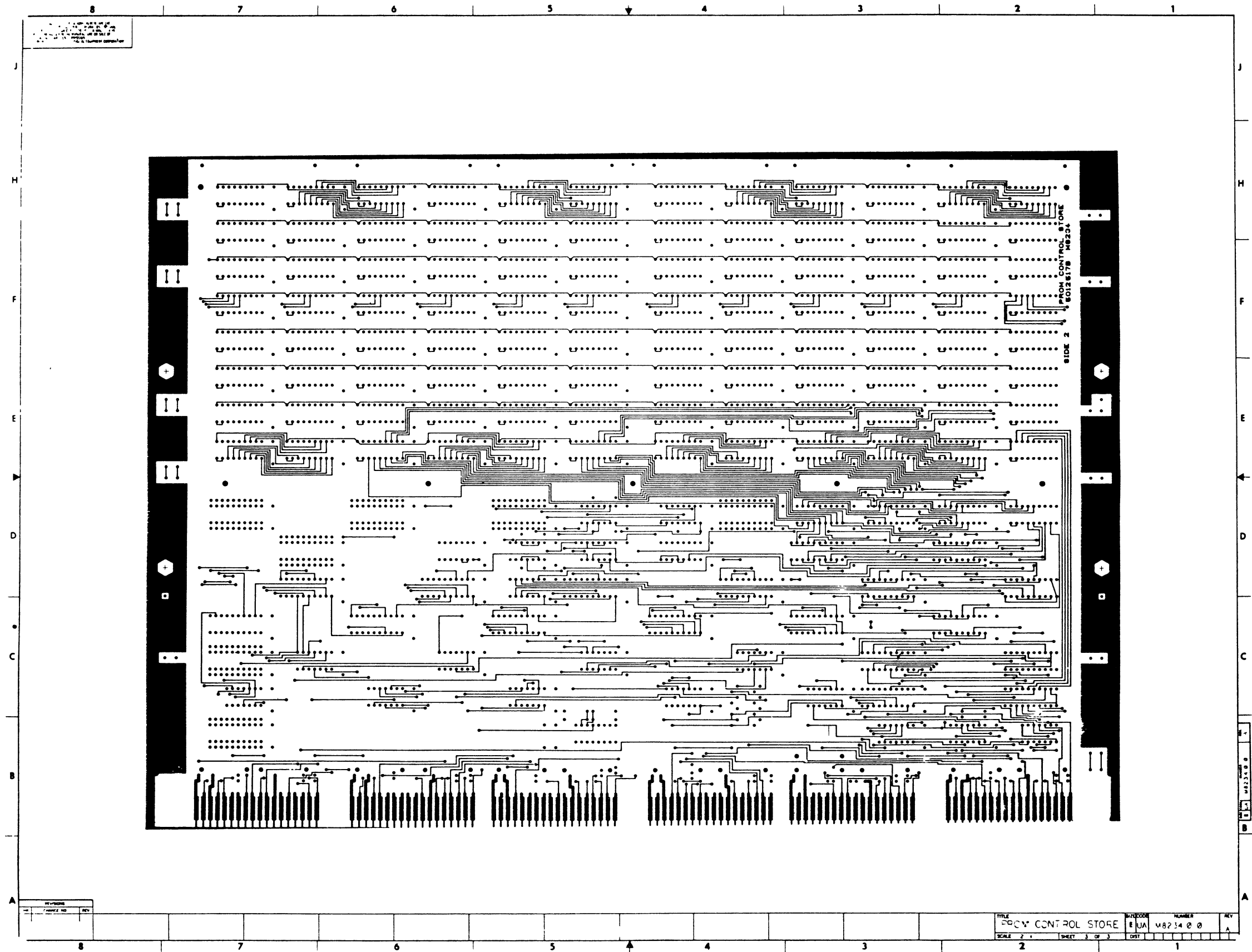
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1981, DIGITAL EQUIPMENT CORPORATION

REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN: 116-SEP-81	DATE: 11-SEP-81	ENG: 19	DATE: 11-SEP-81	ENG: 19	TITLE: WRITEABLE CONTROL STORE (WCSW)			
	CHK: 116-SEP-81	DATE: 11-SEP-81	ENG: 19	DATE: 11-SEP-81	ENG: 19				
FIRST USED ON OPTION/MODEL: 11/780						SIZE: D	CODE: CS	NUMBER: M8238-0-1	REV: A







DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:			
MADE BY <i>Frank E Smart</i> DATE <i>5-24-77</i>		CHECKED <i>Frank E Smart</i> DATE <i>5-24-77</i>		SECTION														ETCH REV B CS REV A	
ENG <i>Lee Dickey</i> DATE <i>8-17-77</i>		PROD <i>John Terillo</i> DATE <i>8-2-77</i>		ISSUED SECTION														REF DESIGNATION	
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8234-0-0															
1	E-MD-5012517-00	50-12517	ETCH BOARD	1													C14-C146 C1-C13 R1-R5 R6,R8,R10,R12,R14 R7,R9,R11,R13,R15 R16,R17 R18,R19 E2,E14,E25,E36,E47,E61,E73,E85,E96,E108,E121,E133 E4,E15,E26,E37,E48,E62,E74,E86,E97,E98,E109,E110,E111,E122,E123,E134,E135,E136 E49,E50,E63,E64 E76 E75 E60 E38 E1,E3,E5,E16,E27,E51,E87		
2		12-10711-2	MODULE HANDLE	1															
3		90-00024-01	MODULE HANDLE EYELETS	12															
4		10-12784-0	CAPACITOR, .047UF 50 V	133															
5		10-12084-1	CAPACITOR, 8UF, 25V	13															
6		13-00365-0	RESISTOR, 1K, 1/4W, 5%	5															
7		13-00295-0	RESISTOR, 330 Ω , 1/4W, 5%	5															
8		13-01775-0	RESISTOR, 820 Ω , 1/4W, 5%	5															
9		13-00247-0	RESISTOR, 120 Ω , 1/4W, 5%	2															
10		13-00250-0	RESISTOR, 150 Ω , 1/4W, 5%	2															
11		19-11573-0	I.C. DEC 74S280	12															
12		19-13462	I.C. DEC 74S240	18															
13		19-10546-0	I.C. DEC 74S140	4															
14		19-10549-0	I.C. DEC 74S158	1															
15		19-11675-0	I.C. DEC 74S138	1															
16		19-11415-0	I.C. DEC 10125	1															
17		19-10534	I.C. DEC 74S04	1															
18			SPARES	7															
E.C.O. NO.																			
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE PROM CONTROL STORE				ASSY NO. E-UA-8234-0-0				SIZE B		CODE PL		NUMBER M8234-0-0		REV. A	
				SHEET 1 OF 6				INSERTION PARTS LIST DATA BASE REV											

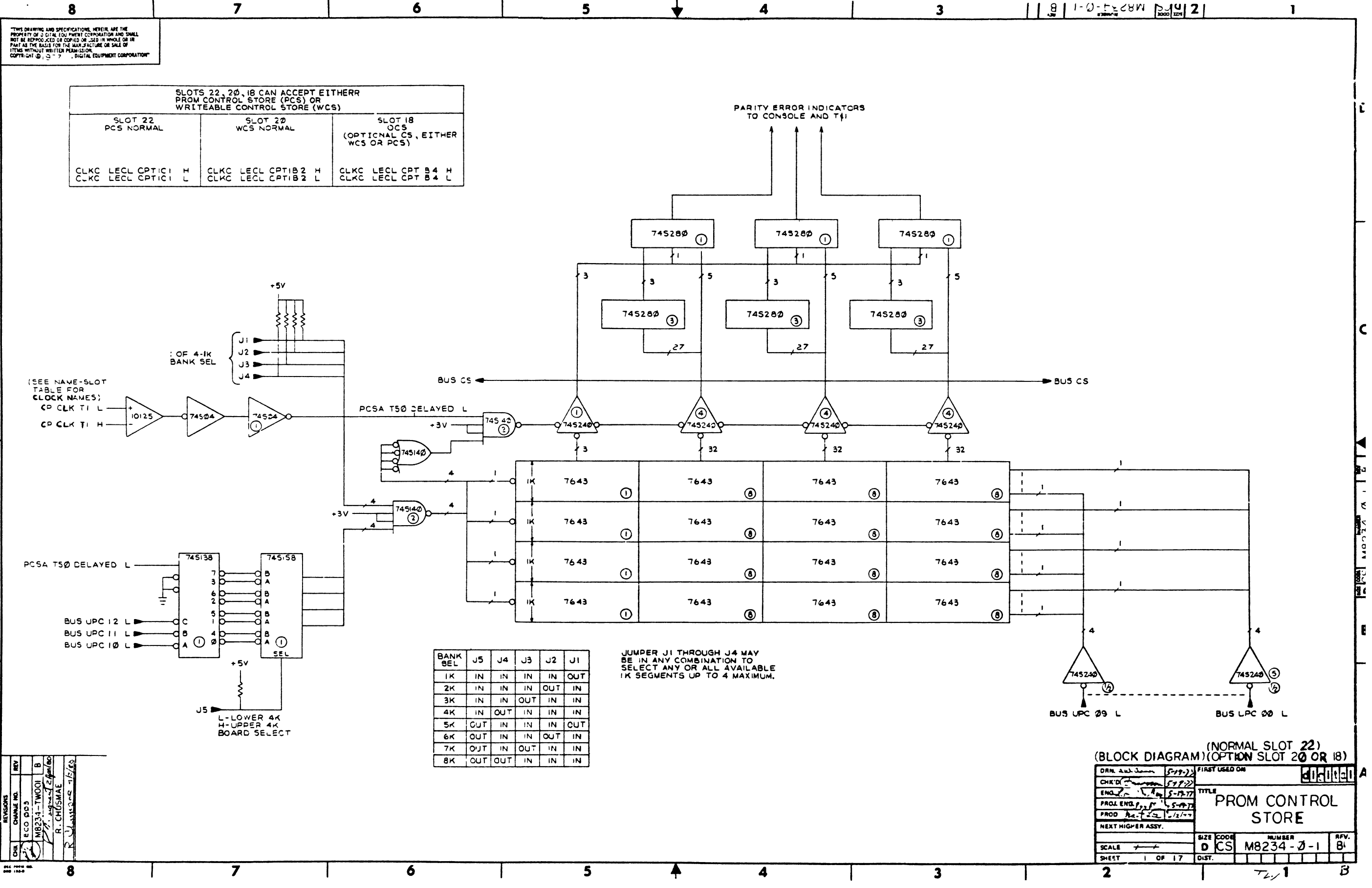
DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:			
MADE BY <i>J. Smart</i> DATE <i>5-24-77</i>		CHECKED <i>J. Smart</i> DATE <i>5-24-77</i>		SECTION															
ENG <i>Lee Dickey</i> DATE <i>8-17-77</i>		PROD <i>Mike Dulla</i> DATE <i>8-2-77</i>		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION															REF DESIGNATION	
19		23-Ø44F1-ØØ	PROM	1												E6			
20		23-Ø45F1-ØØ	"	1												E1Ø			
21		23-Ø46F1-ØØ	"	1												E17			
22		23-Ø47F1-ØØ	"	1												E21			
23		23-Ø48F1-ØØ	"	1												E28			
24		23-Ø49F1-ØØ	"	1												E32			
25		23-Ø5ØF1-ØØ	"	1												E39			
26		23-Ø51F1-ØØ	"	1												E43			
27		23-Ø52F1-ØØ	"	1												E52			
28		23-Ø53F1-ØØ	"	1												E56			
29		23-Ø54F1-ØØ	"	1												E65			
30		23-Ø55F1-ØØ	"	1												E69			
31		23-Ø56F1-ØØ	"	1												E77			
32		23-Ø57F1-ØØ	"	1												E81			
33		23-Ø58F1-ØØ	"	1												E88			
34		23-Ø59F1-ØØ	"	1												E92			
35		23-Ø6ØF1-ØØ	"	1												E1ØØ			
36		23-Ø61F1-ØØ	"	1												E1Ø4			
37		23-Ø62F1-ØØ	"	1												E113			
38		23-Ø63F1-ØØ	"	1												E117			
E.C.O. NO.																			
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT ©1977 DIGITAL EQUIPMENT CORPORATION"				TITLE PROM CONTROL STORE				ASSY NO. E-UA-M8234-Ø-Ø				SIZE B	CODE PL	NUMBER M8234-Ø-Ø		REV. A			
								SHEET 2 OF 6				INSERTION PARTS LIST DATA BASE REV							

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:			
MADE BY DATE		CHECKED DATE		SECTION													
ENG DATE		PROD DATE		ISSUED SECTION													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8234-0-0												REF DESIGNATION	
39		23-064F1-00	PROM	1												E125	
40		23-065F1-00	"	1												E129	
41		23-066F1-00	"	1												E138	
42		23-067F1-00	"	1												E142	
43		23-068F1-00	"	1												E99	
44		23-069F1-00	"	1												E7	
45		23-070F1-00	"	1												E11	
46		23-071F1-00	"	1												E18	
47		23-072F1-00	"	1												E22	
48		23-073F1-00	"	1												E29	
49		23-074F1-00	"	1												E33	
50		23-075F1-00	"	1												E40	
51		23-076F1-00	"	1												E44	
52		23-077F1-00	"	1												E53	
53		23-078F1-00	"	1												E57	
54		23-079F1-00	"	1												E66	
55		23-080F1-00	"	1												E70	
56		23-081F1-00	"	1												E78	
57		23-082F1-00	"	1												E82	
58		23-083F1-00	"	1												E89	
E.C.O. NO.																	
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE				ASSY NO.				SIZE	CODE	NUMBER	REV.		
				PROM CONTROL STORE				EUA-M8234-0-0				B	PL	M8234-0-0	A		
				SHEET 3 OF 6				INSERTION PARTS LIST DATA BASE REV									

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:			
MADE BY DATE		CHECKED DATE		SECTION															
ENG DATE		PROD DATE		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8234-0-0													REF DESIGNATION		
59		23-084F1-00	PROM	1													E93		
60		23-085F1-00	"	1													E101		
61		23-086F1-00	"	1													E105		
62		23-087F1-00	"	1													E114		
63		23-088F1-00	"	1													E118		
64		23-089F1-00	"	1													E126		
65		23-090F1-00	"	1													E130		
66		23-091F1-00	"	1													E139		
67		23-092F1-00	"	1													E143		
68		23-093F1-00	"	1													E112		
69		23-094F1-00	"	1													E8		
70		23-095F1-00	"	1													E12		
71		23-096F1-00	"	1													E19		
72		23-097F1-00	"	1													E23		
73		23-098F1-00	"	1													E30		
74		23-099F1-00	"	1													E34		
75		23-100F1-00	"	1													E41		
76		23-101F1-00	"	1													E45		
77		23-102F1-00	"	1													E54		
78		23-103F1-00	"	1													E58		
E.C.O. NO.																			
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE PRCM CONTROL STORE				ASSY NO. E-UA-M 8234-0-0				SIZE B	CODE PL	NUMBER M 8234-0-0		REV. A			
								SHEET 4 OF 6				INSERTION PARTS LIST DATA BASE REV							

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION										NOTES:			
MADE BY DATE		CHECKED DATE		SECTION													
ENG DATE		PROD DATE		ISSUED SECTION													
8-17-77		2-3-77															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8234-0-0													REF DESIGNATION
79		23-104F1-00	PROM	1													E67
80		23-105F1-00		1													E71
81		23-106F1-00		1													E79
82		23-107F1-00		1													E83
83		23-108F1-00		1													E90
84		23-109F1-00		1													E94
85		23-110F1-00		1													E102
86		23-111F1-00		1													E106
87		23-112F1-00		1													E115
88		23-113F1-00		1													E119
89		23-114F1-00		1													E127
90		23-115F1-00		1													E131
91		23-116F1-00		1													E140
92		23-117F1-00		1													E144
93		23-118F1 00		1													E124
94		23-119F1-00		1													E9
95		23-120F1-00		1													E13
96		23-121F1-00		1													E20
97		23-122F1-00		1													E24
98		23-123F1-00		1													E31
E.C.O. NO.																	
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"			TITLE PROM CONTROL STORE		ASSY NO. E-UA-M8234-0-0		SIZE B	CODE PL	NUMBER M8234-0-0		REV. A						
					SHEET 5 OF 6		INSERTION PARTS LIST DATA BASE REV										

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:			
MADE BY DATE		CHECKED DATE		SECTION															
ENG DATE		PROD DATE		ISSUED SECTION														REF DESIGNATION	
Lee Dukeey 8-17-77		Mike J. J. J. 8-2-77																	
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8234-0-0															
99		23-124F1-00	PROM	1													E35		
100		23-125F1-00		1													E42		
101		23-126F1-00		1													E46		
102		23-127F1-00		1													E55		
103		23-128F1-00		1													E59		
104		23-129F1-00		1													E68		
105		23-130F1-00		1													E72		
106		23-131F1-00		1													E80		
107		23-132F1-00		1													E84		
108		23-133F1-00		1													E91		
109		23-134F1-00		1													E95		
110		23-135F1-00		1													E103		
111		23-136F1-00		1													E107		
112		23-137F1-00		1													E116		
113		23-138F1-00		1													E120		
114		23-139F1-00		1													E128		
115		23-140F1-00		1													E132		
116		23-141F1-00		1													E141		
117		23-142F1-00		1													E145		
118		23-143F1-00		1													E137		
E.C.O. NO.																			
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE PROM CONTROL STORE				ASSY NO. E-UA-M8234-0-0 SHEET 6 OF 6				SIZE B CODE PL		NUMBER M8234-0-0		REV. A			



SLOTS 22, 20, 18 CAN ACCEPT EITHER PROM CONTROL STORE (PCS) OR WRITEABLE CONTROL STORE (WCS)								
SLOT 22 PCS NORMAL			SLOT 20 WCS NORMAL			SLOT 18 OCS (OPTIONAL CS, EITHER WCS OR PCS)		
CLKC	LECL	CPTIC1 H	CLKC	LECL	CPTIB2 H	CLKC	LECL	CPT B 4 H
CLKC	LECL	CPTIC1 L	CLKC	LECL	CPTIB2 L	CLKC	LECL	CPT B 4 L

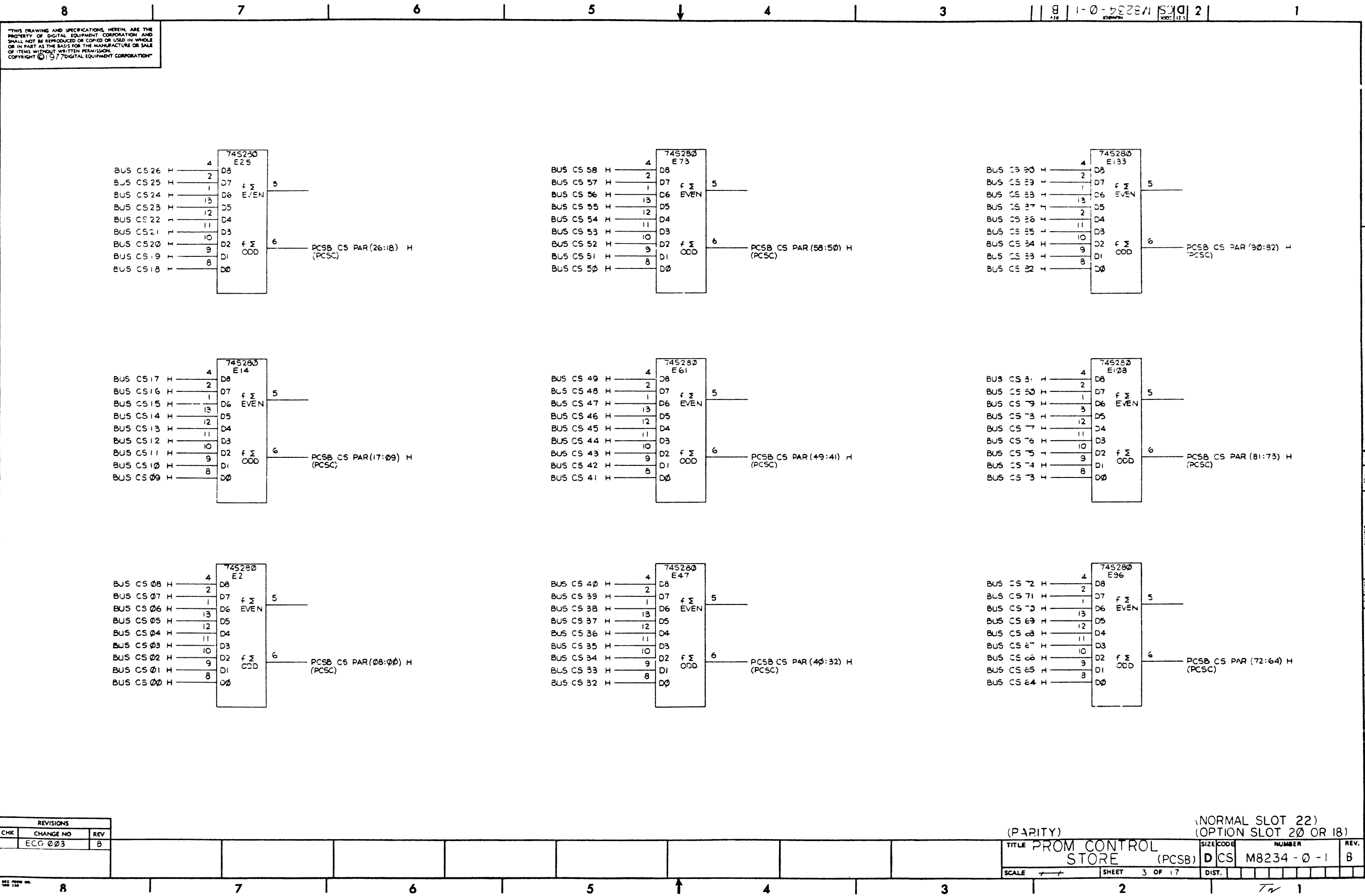
BANK SEL	J5	J4	J3	J2	J1
1K	IN	IN	IN	IN	OUT
2K	IN	IN	IN	OUT	IN
3K	IN	IN	OUT	IN	IN
4K	IN	OUT	IN	IN	IN
5K	OUT	IN	IN	IN	OUT
6K	OUT	IN	IN	OUT	IN
7K	OUT	IN	OUT	IN	IN
8K	OUT	OUT	IN	IN	IN

JUMPER J1 THROUGH J4 MAY
BE IN ANY COMBINATION TO
SELECT ANY OR ALL AVAILABLE
1K SEGMENTS UP TO 4 MAXIMUM.

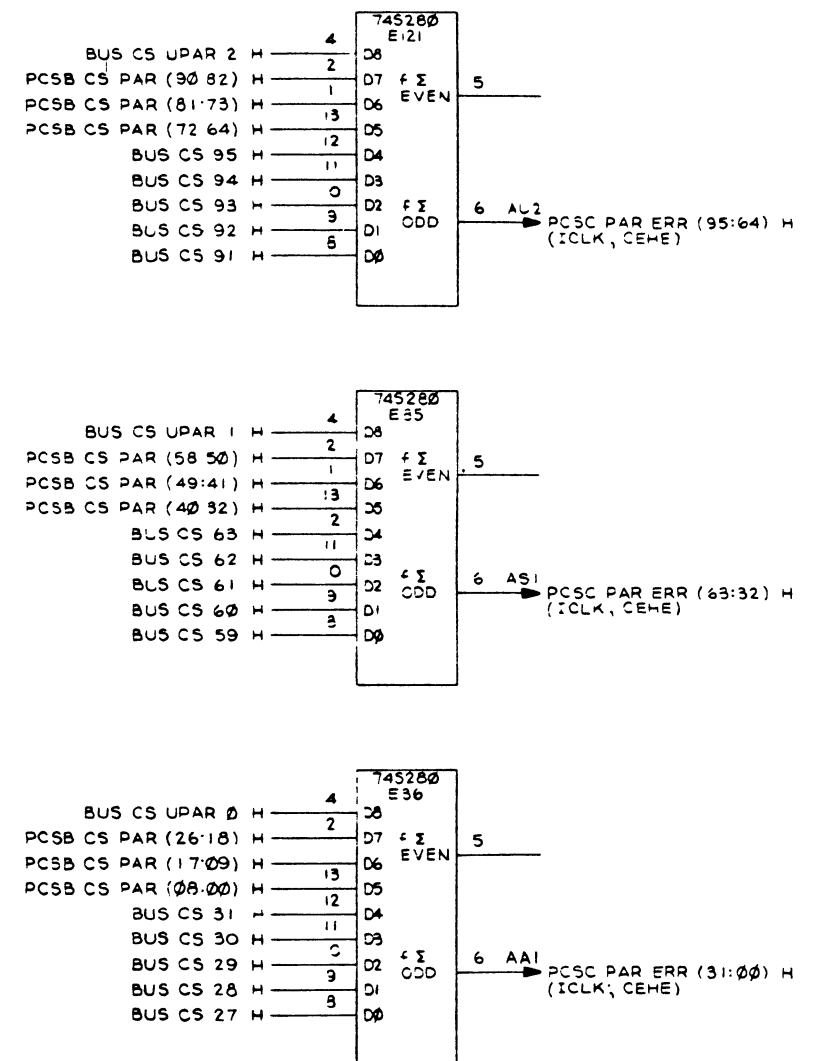
DRAWN BY: [Signature]		FIRST USED ON: [Date]	
CHK'D BY: [Signature]		TITLE: PROM CONTROL STORE	
ENG. BY: [Signature]		SIZE: D CS	
PROJ. ENG. BY: [Signature]		NUMBER: M8234-0-1	
PROD. BY: [Signature]		REV. 8	
NEXT HIGHER ASSY.		SHEET 1 OF 17	
SCALE: 1:1		DIST.	

REV	CHG	NO.	BY	DATE
1	ECO	003	B	5-19-77
2	M8234-TWO	001	B	5-19-77
3	R. CHUSMAE			5-19-77
4	R. CHUSMAE			5-19-77

DIST.							
-------	--	--	--	--	--	--	--



A |

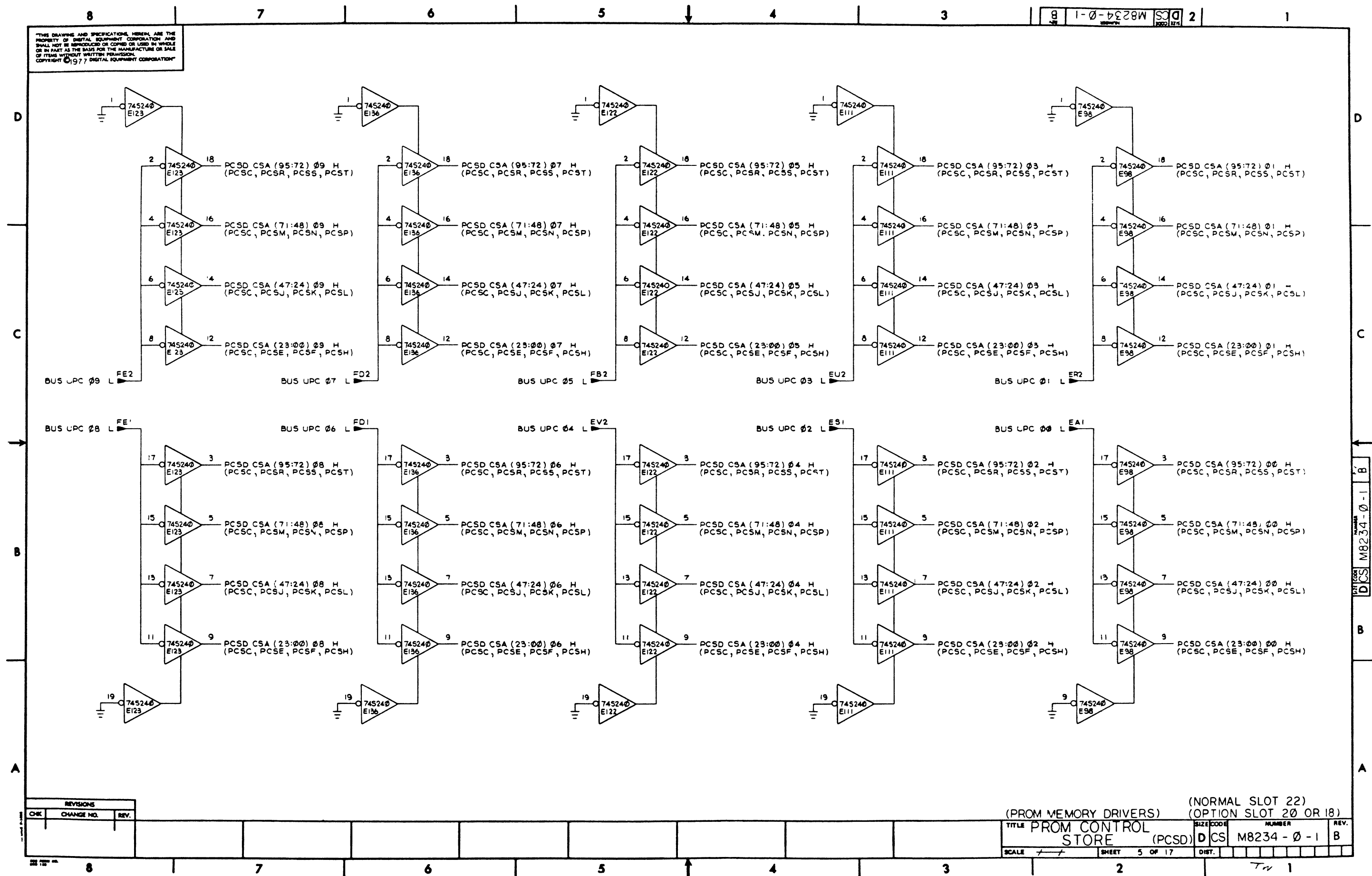


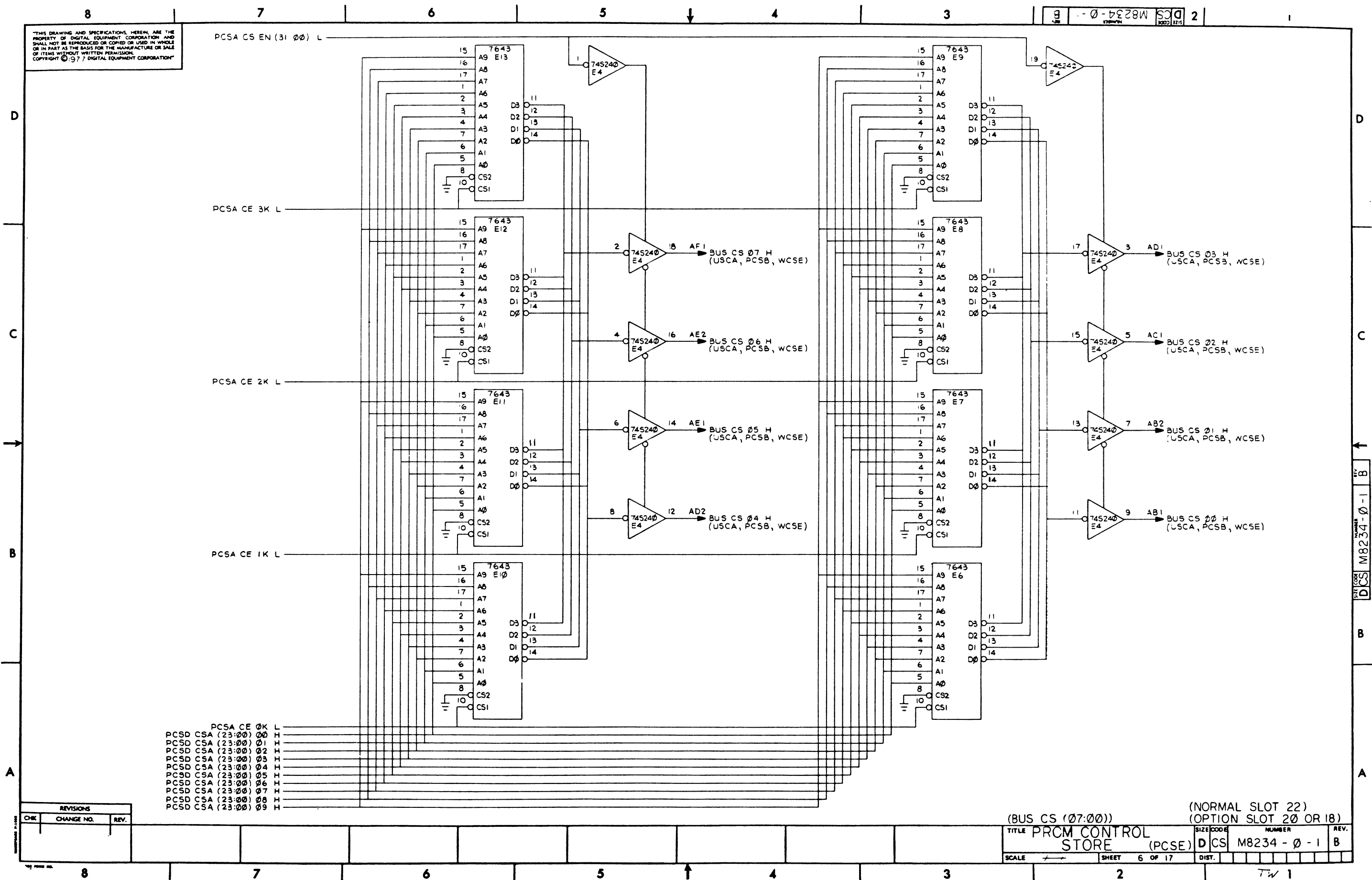
REVISIONS		
CHK	CHANGE NO.	REV.

8	7	6	5	↑	4	3	2	1
---	---	---	---	---	---	---	---	---

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

(PARITY CHECK)		(NORMAL SLOT 22)	
		(OPTION SLOT 20 OR 18)	
TITLE PROM CONTROL STORE (PCSC)		SIZE CODE D CS	NUMBER M8234 - 0 - 1
SCALE 1/4	SHEET 4 OF 17	DIST.	REV. B





THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

PCSA CS EN (31:00) L

PCSA CE 3K L

PCSA CE 2K L

PCSA CE 1K L

PCSA CE 0K L
PCSD CSA (23:00) 00 H
PCSD CSA (23:00) 01 H
PCSD CSA (23:00) 02 H
PCSD CSA (23:00) 03 H
PCSD CSA (23:00) 04 H
PCSD CSA (23:00) 05 H
PCSD CSA (23:00) 06 H
PCSD CSA (23:00) 07 H
PCSD CSA (23:00) 08 H
PCSD CSA (23:00) 09 H

(BUS CS (15:08))

(NORMAL SLOT 22)
(OPTION SLOT 20 OR 18)

TITLE PROM CONTROL
STORE (PCSF)

SIZE CODE D CS NUMBER M8234 - 0 - 1 REV. B

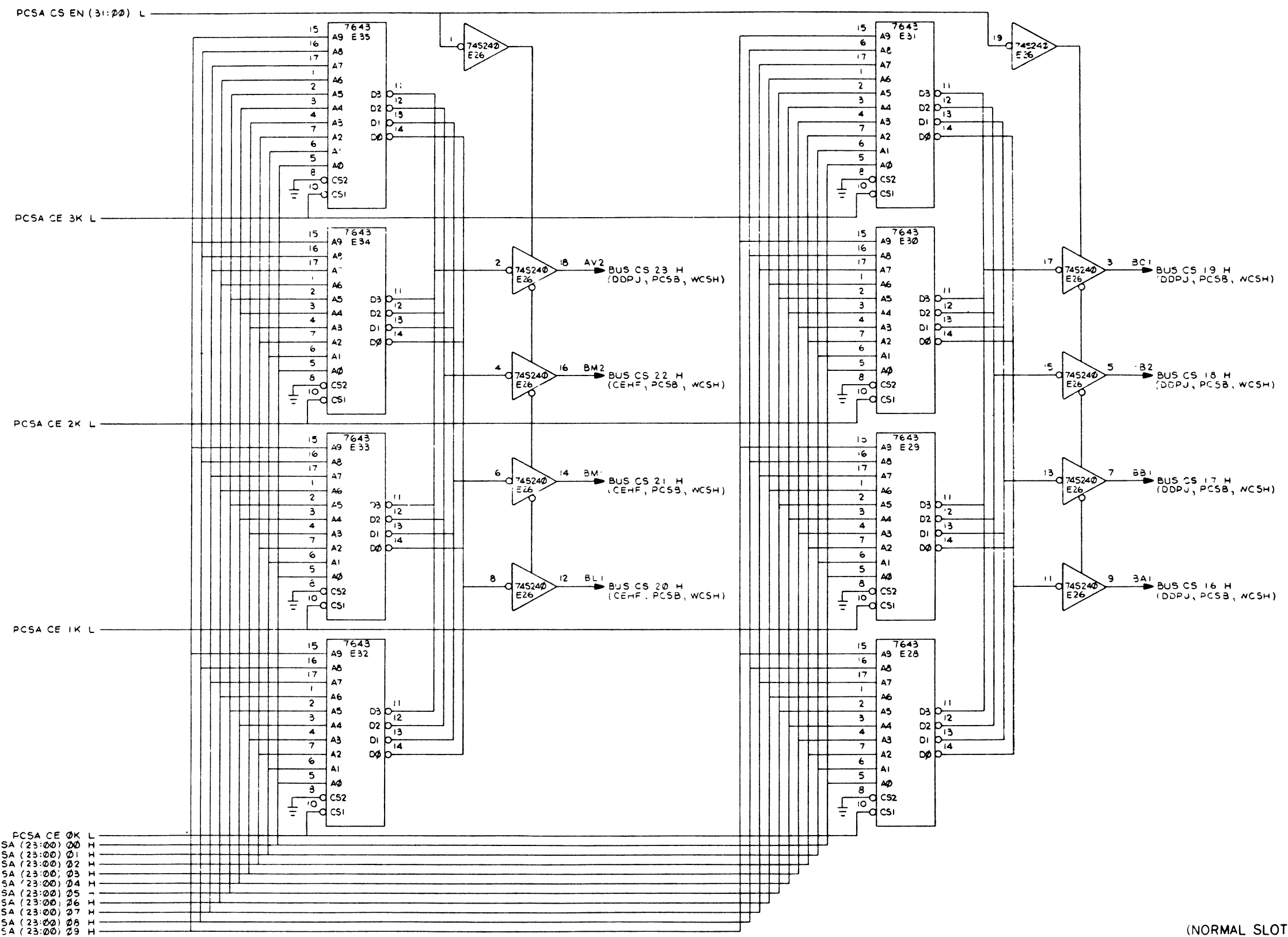
SCALE 1:1 SHEET 7 OF 17 DIST.

TW 1

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

D
C
B
A

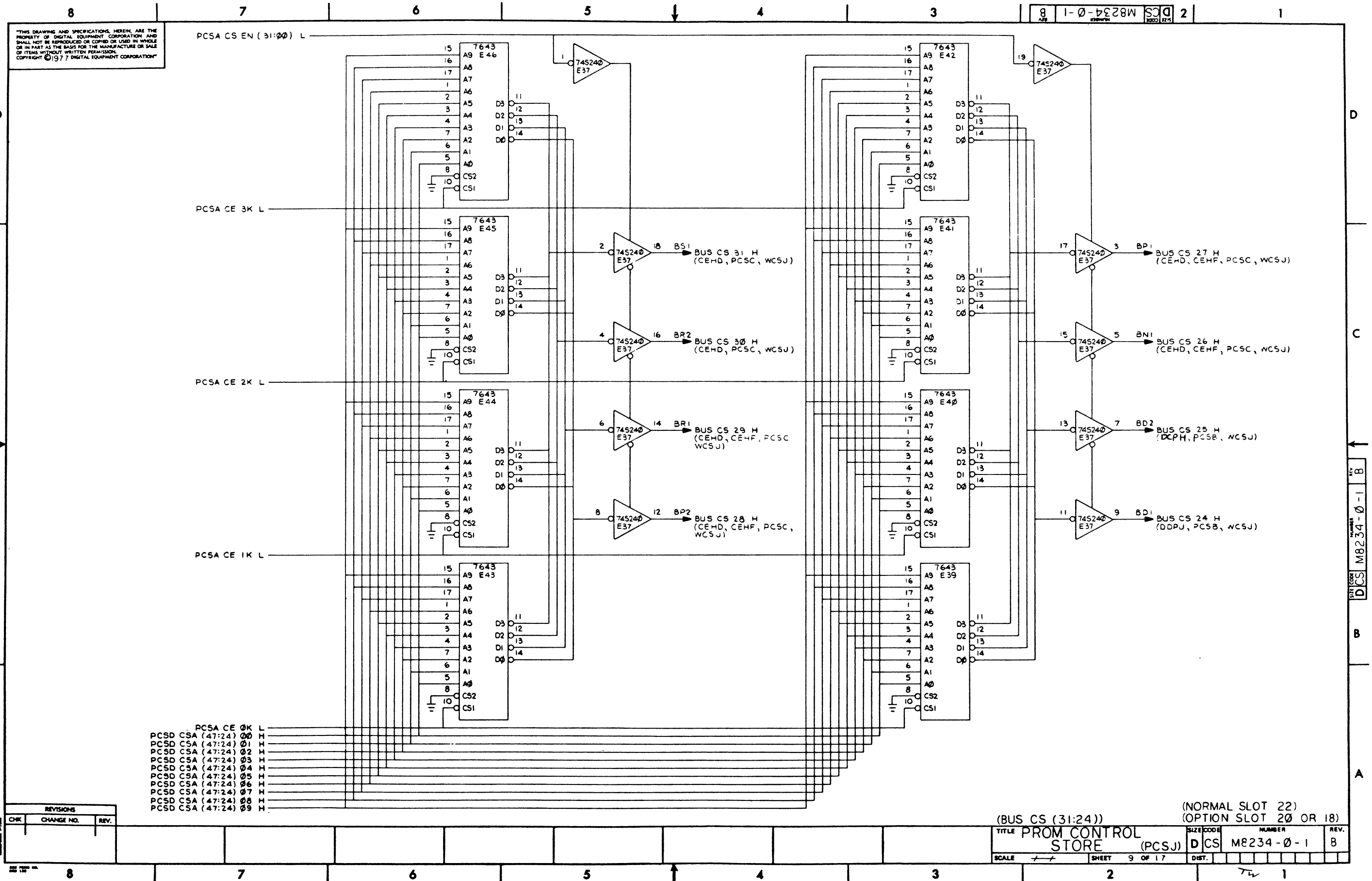
D
C
B
A



- PCSA CE 0K L
- PCSD CSA (23:00) 00 H
- PCSD CSA (23:00) 01 H
- PCSD CSA (23:00) 02 H
- PCSD CSA (23:00) 03 H
- PCSD CSA (23:00) 04 H
- PCSD CSA (23:00) 05 H
- PCSD CSA (23:00) 06 H
- PCSD CSA (23:00) 07 H
- PCSD CSA (23:00) 08 H
- PCSD CSA (23:00) 09 H

REVISIONS		
CHK	CHANGE NO	REV.

(BUS CS (23:16))		(NORMAL SLOT 22)	
(OPTION SLOT 20 OR 15)			
TITLE PROM CONTROL STORE (PCSH)		SIZE CODE DCS	NUMBER M8234 - 0 - 1
SCALE	SHEET 8 OF 17	DIST.	TW 1



THIS DRAWING AND SPECIFICATIONS HEREON ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

D
C
B
A

D
C
B
A

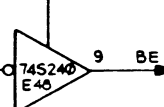
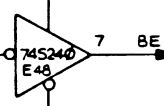
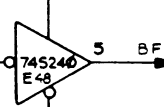
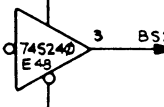
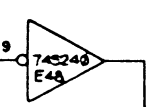
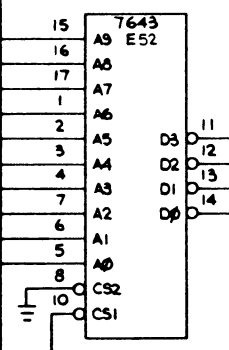
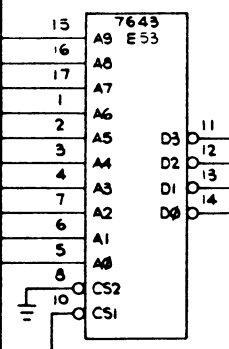
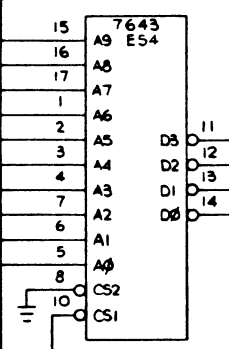
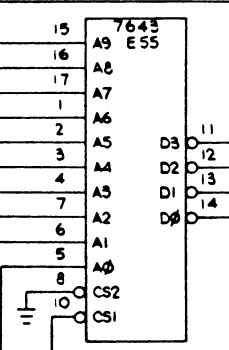
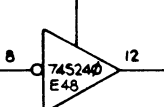
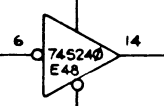
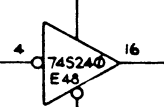
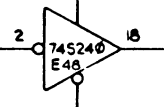
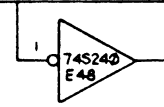
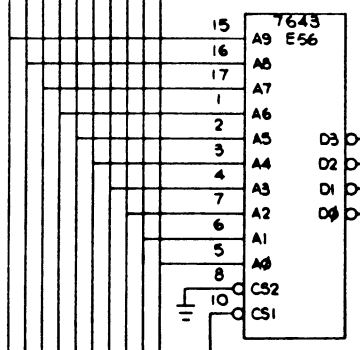
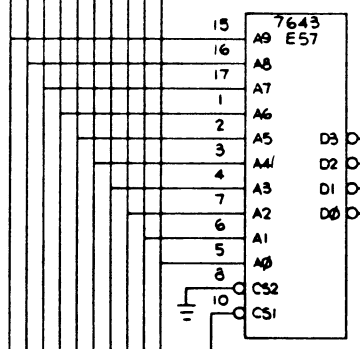
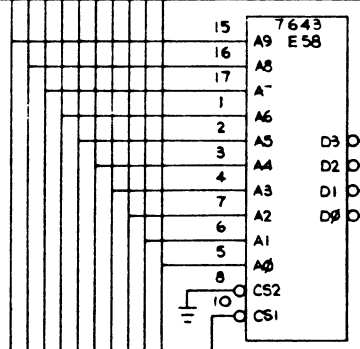
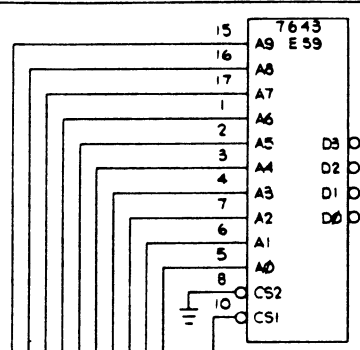
PCSA CS EN (63:32) L

PCSA CE 3K L

PCSA CE 2K L

PCSA CE 1K L

PCSA CE 0K L
PCSD CSA (47:24) 00 H
PCSD CSA (47:24) 01 H
PCSD CSA (47:24) 02 H
PCSD CSA (47:24) 03 H
PCSD CSA (47:24) 04 H
PCSD CSA (47:24) 05 H
PCSD CSA (47:24) 06 H
PCSD CSA (47:24) 07 H
PCSD CSA (47:24) 08 H
PCSD CSA (47:24) 09 H

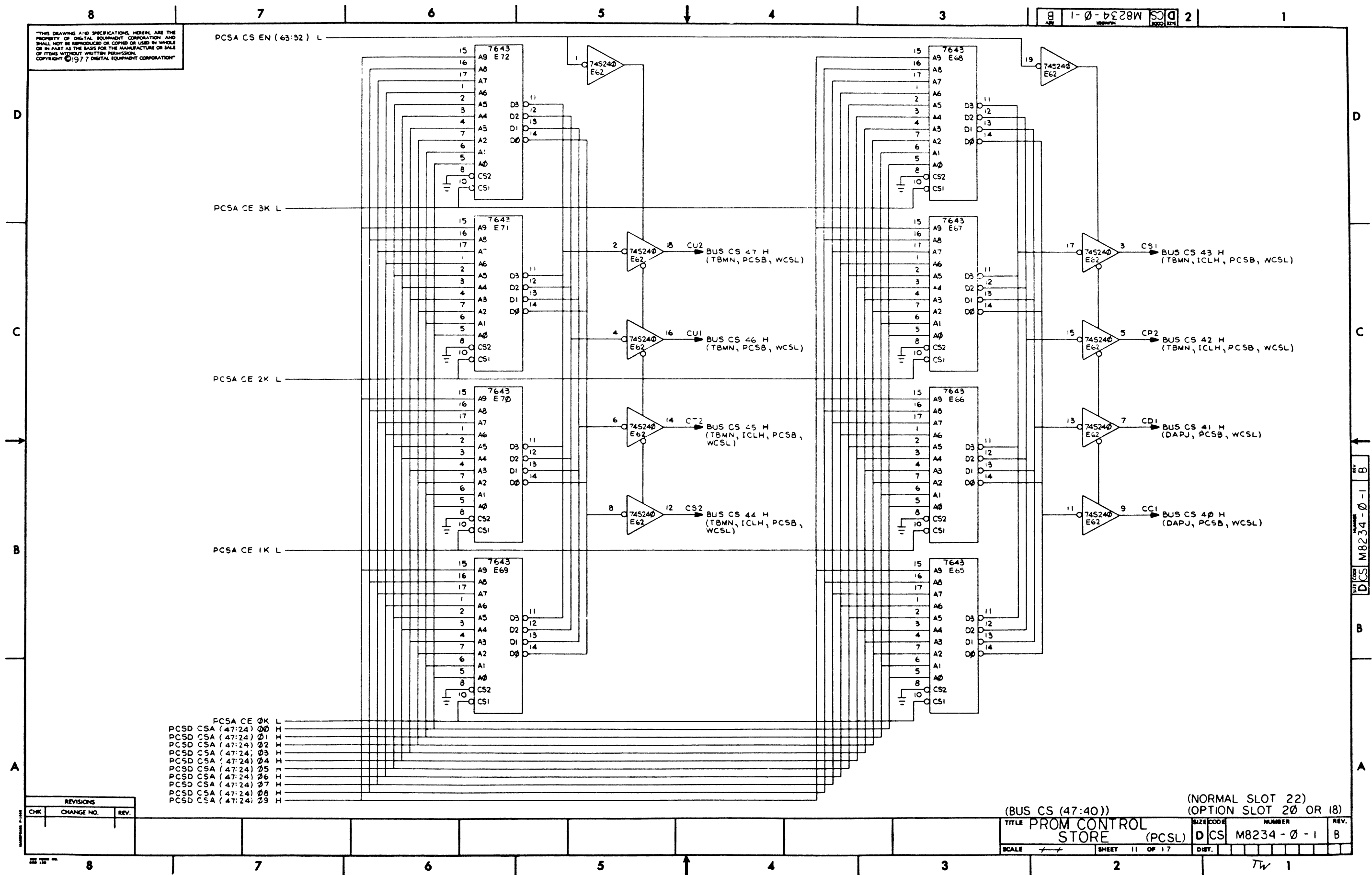


(BUS CS (39:32))

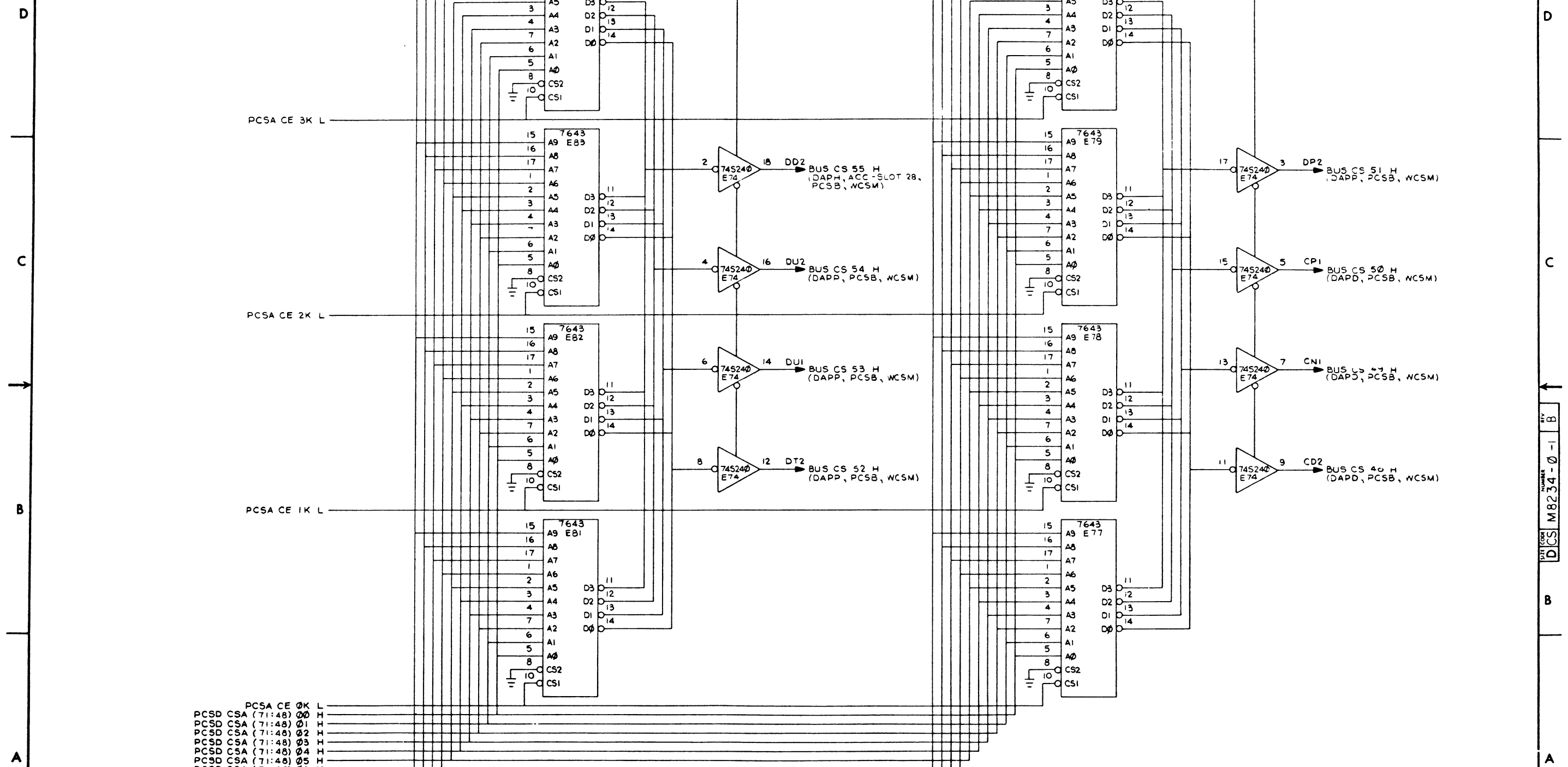
(NORMAL SLOT 22)
(OPTION SLOT 20 OR 18)

TITLE		SIZE	CODE	NUMBER		REV.
PROM CONTROL STORE (PCSK)		D	CS	M8234-0-1	B	
SCALE		SHEET 10 OF 17		DIST.		

REVISIONS		
CHK	CHANGE NO.	REV.



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

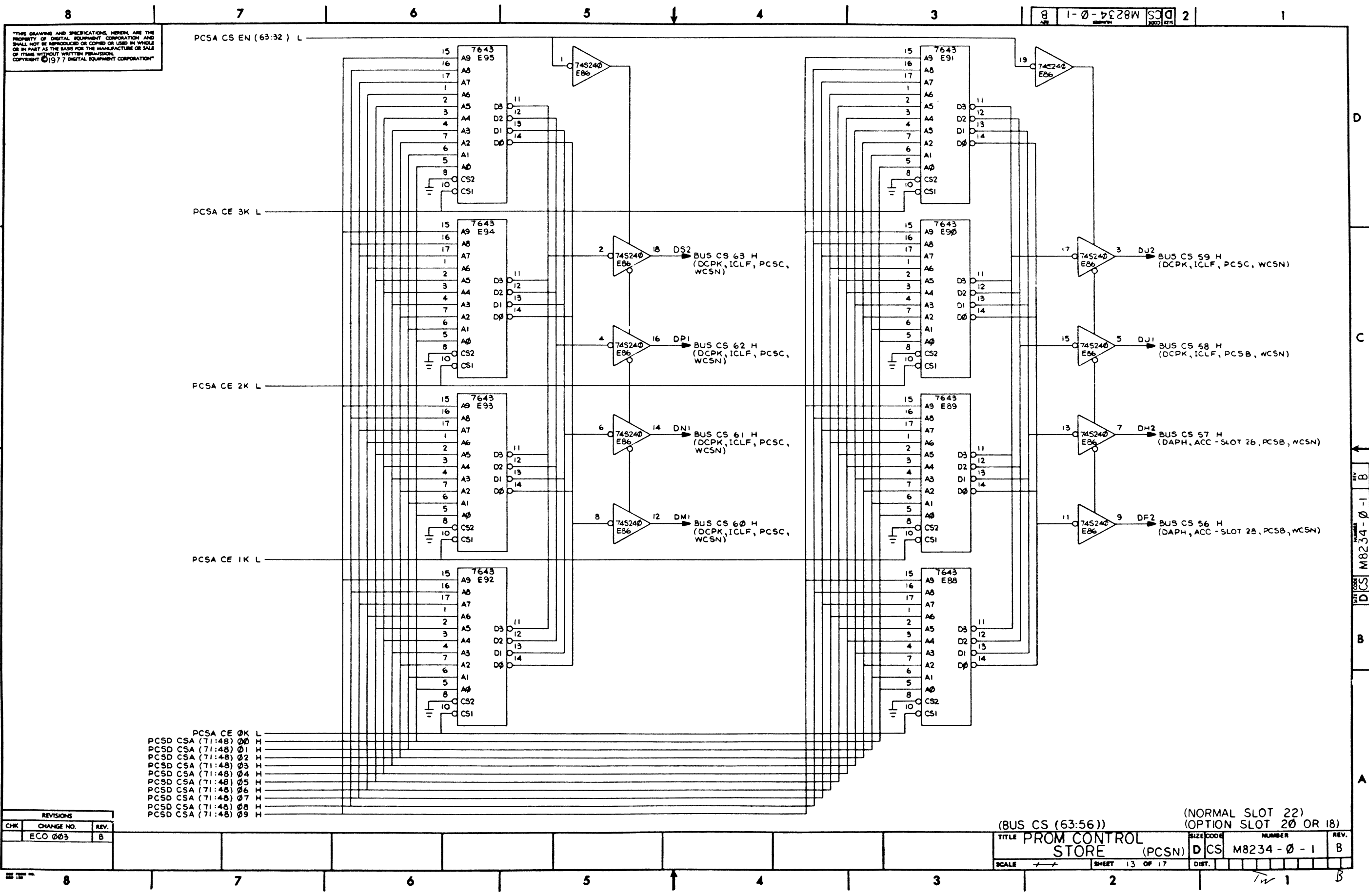


- PISA CE 0K L
- PCSD CSA (71:48) 00 H
- PCSD CSA (71:48) 01 H
- PCSD CSA (71:48) 02 H
- PCSD CSA (71:48) 03 H
- PCSD CSA (71:48) 04 H
- PCSD CSA (71:48) 05 H
- PCSD CSA (71:48) 06 H
- PCSD CSA (71:48) 07 H
- PCSD CSA (71:48) 08 H
- PCSD CSA (71:48) 09 H

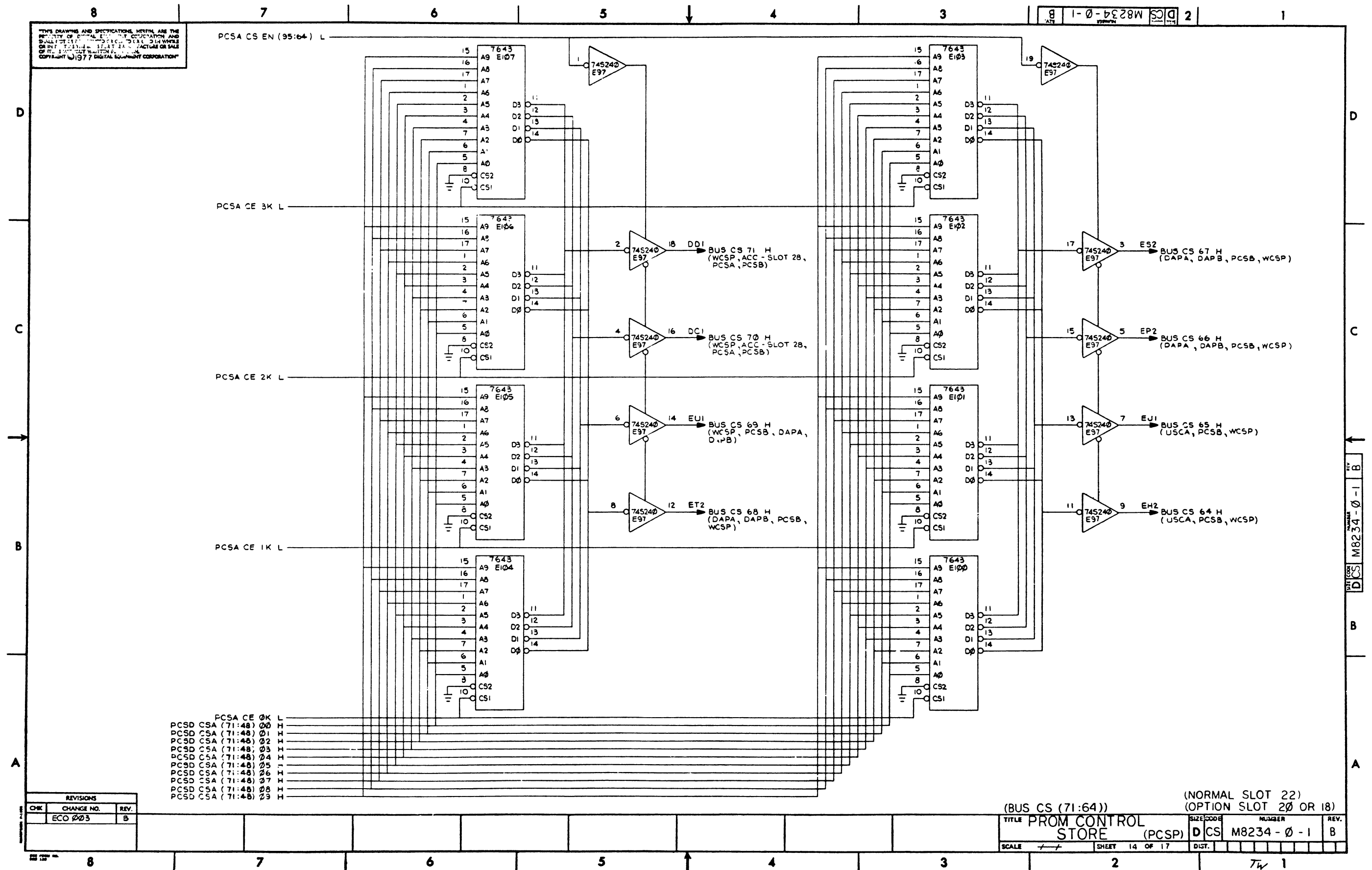
REVISIONS		
CHK	CHANGE NO.	REV.
	ECO 003	B

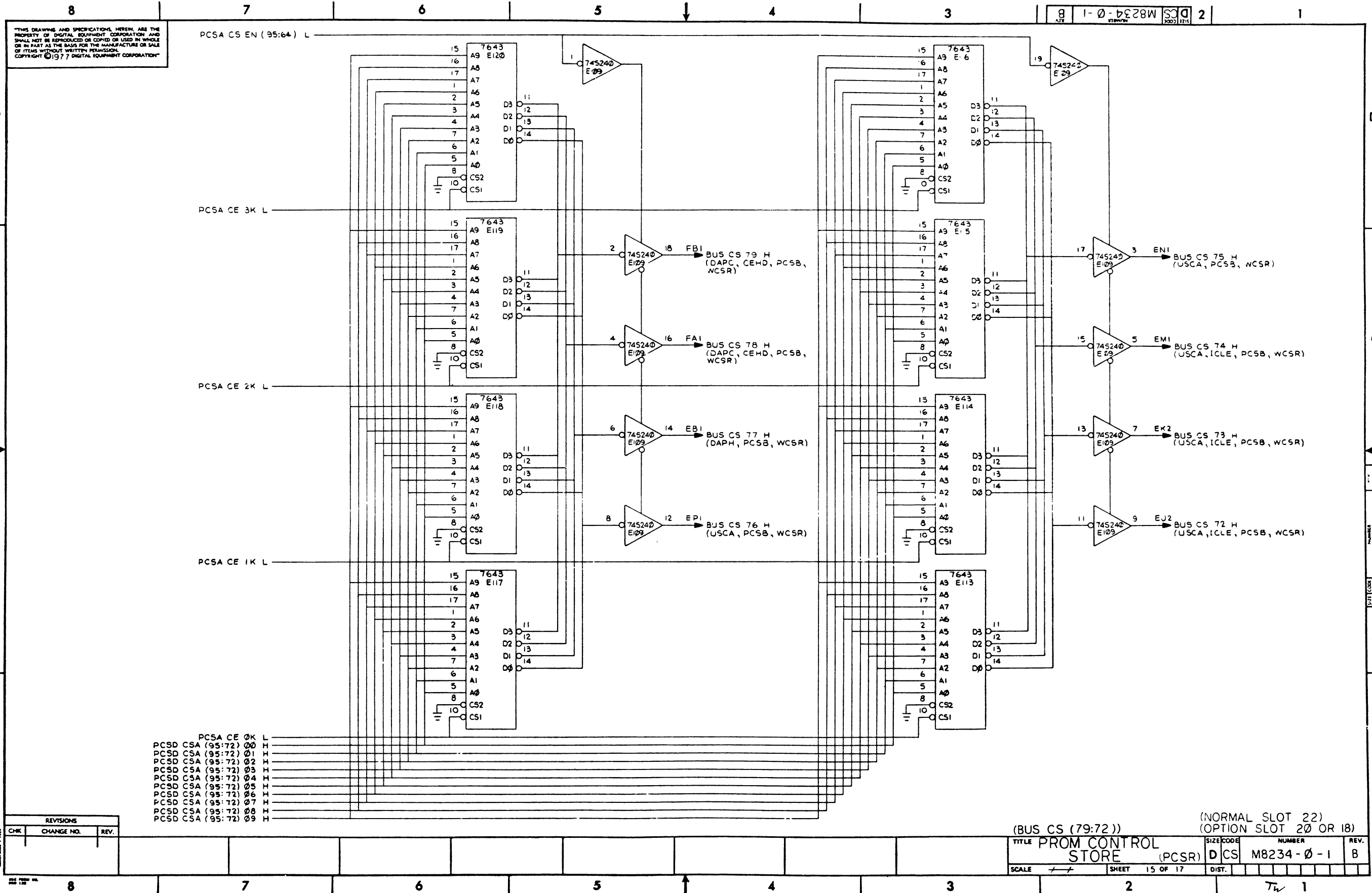
(BUS CS (55:48)) (NORMAL SLOT 22)
(OPTION SLOT 20 OR 18)

TITLE	PROM CONTROL STORE (PCSM)	SIZE CODE	D CS	NUMBER	M8234-0-1	REV.	B
SCALE	1:1	SHEET	12 OF 17	DIST.			



REVISIONS		
CHK	CHANGE NO.	REV.
ECO	003	B

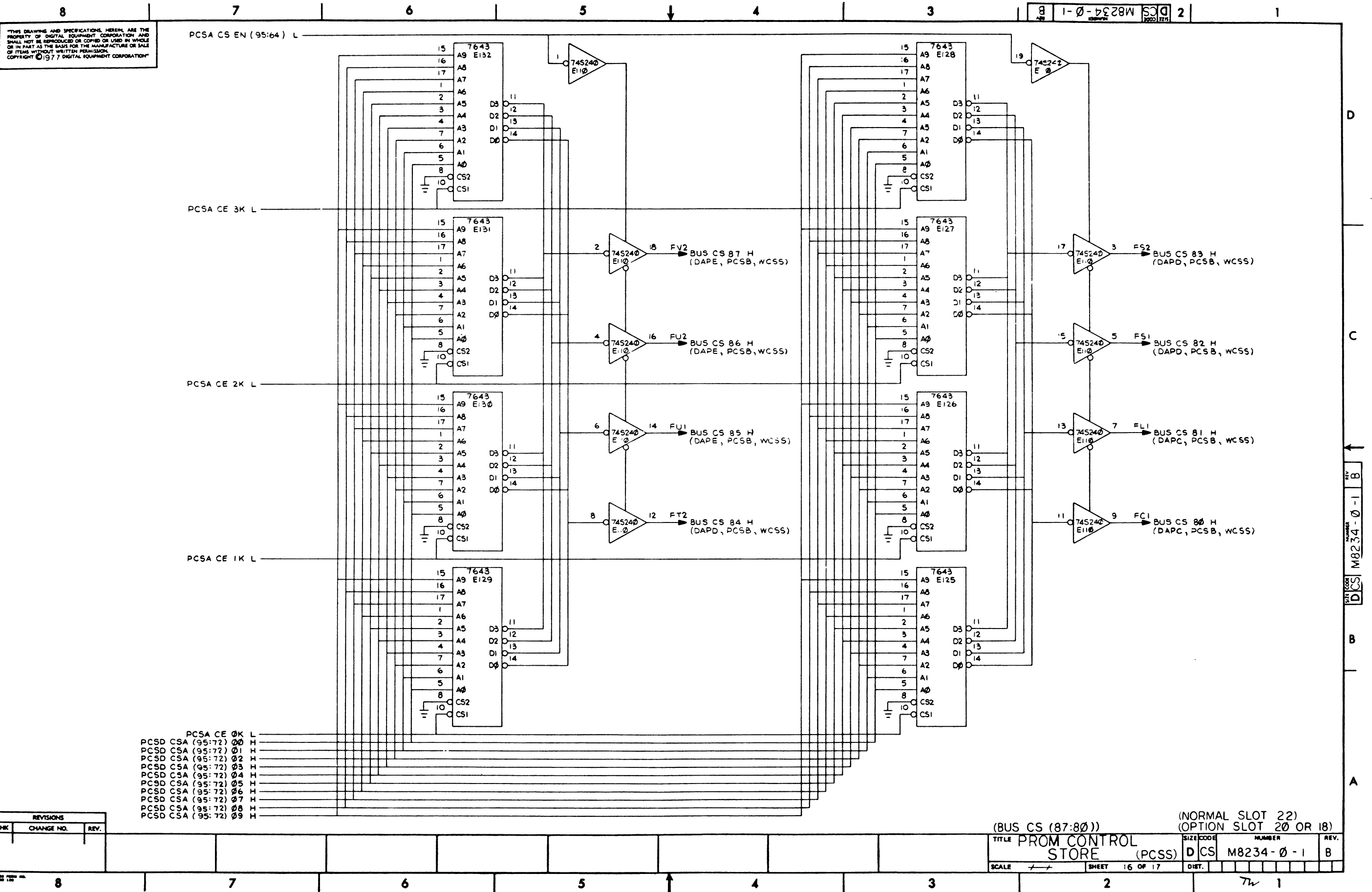


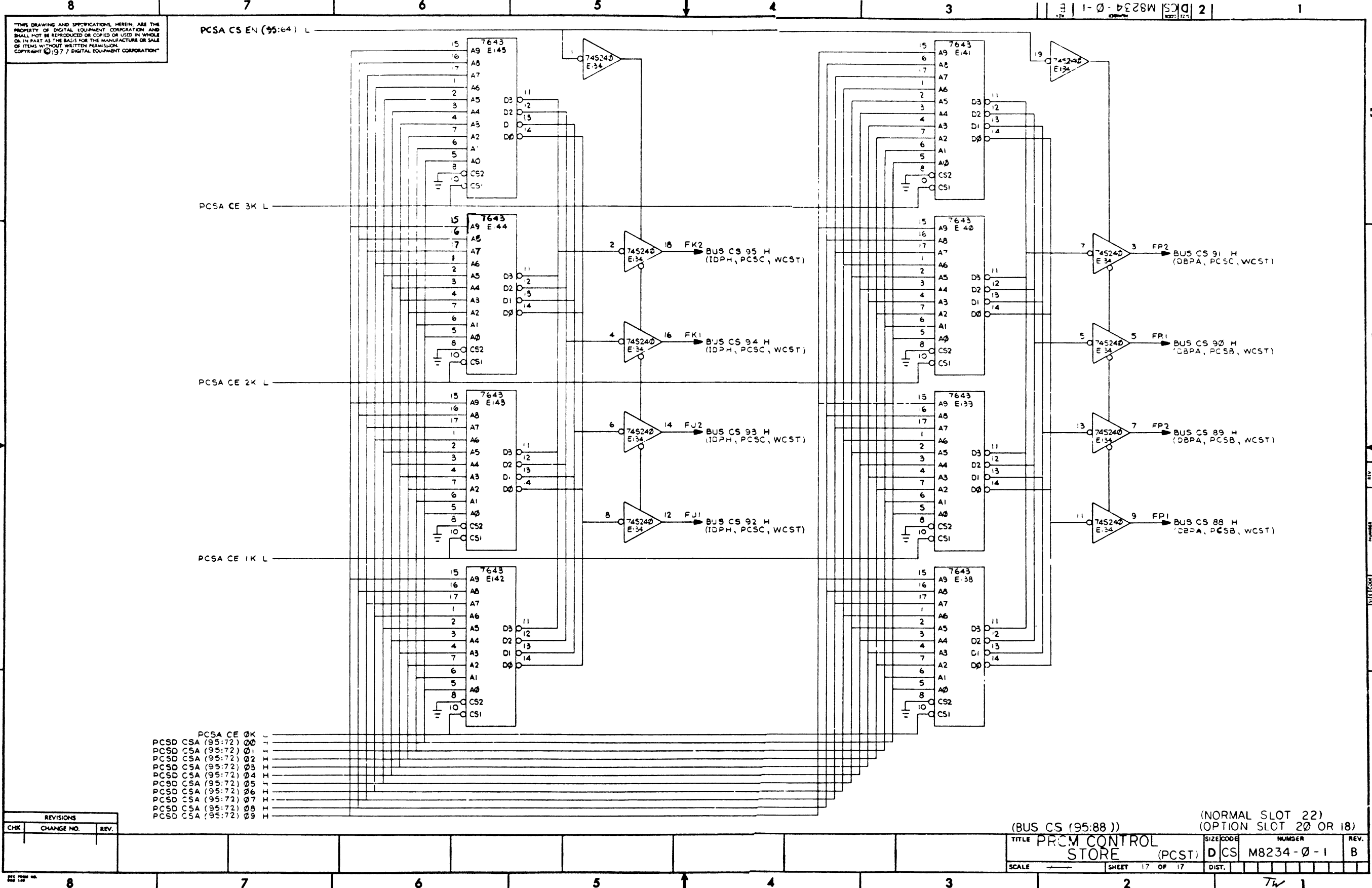


"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

REVISIONS		
CHK	CHANGE NO.	REV.

(BUS CS (79:72))		(NORMAL SLOT 22)	
(OPTION SLOT 20 OR 18)			
TITLE PROM CONTROL STORE (PCSR)		SIZE CODE DCS	NUMBER M8234-0-1
SCALE 1:1		SHEET 15 OF 17	REV. B
		DIST.	

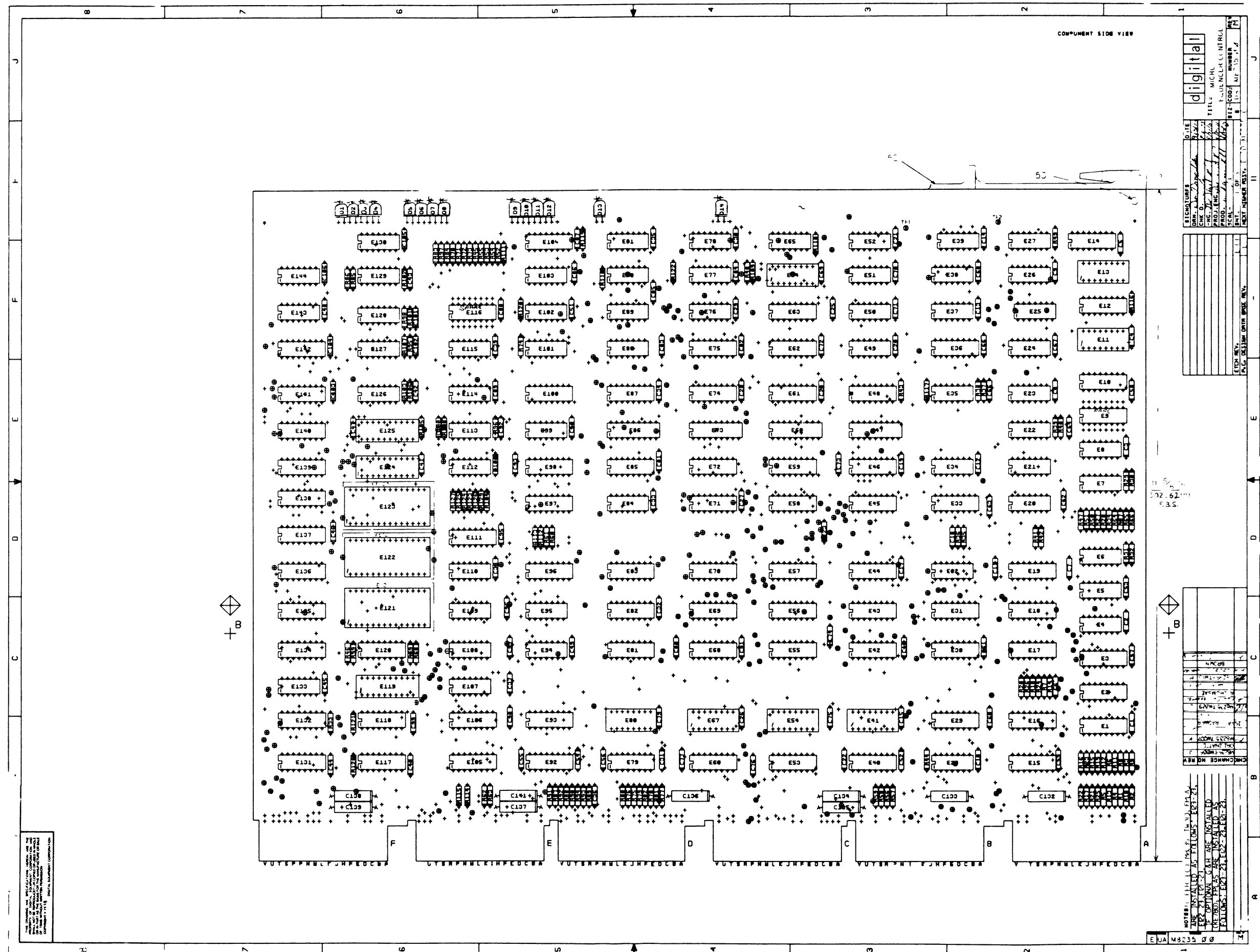


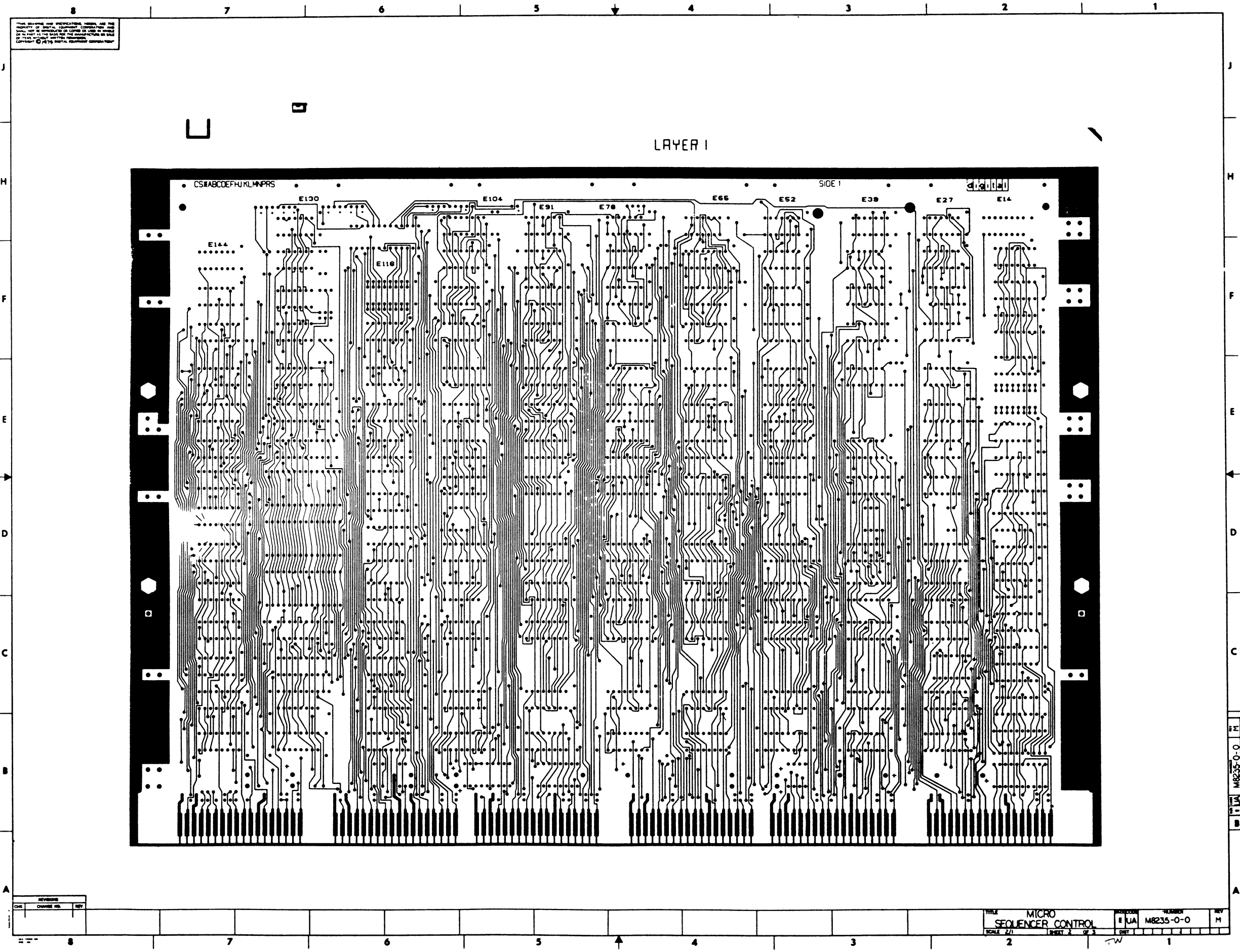


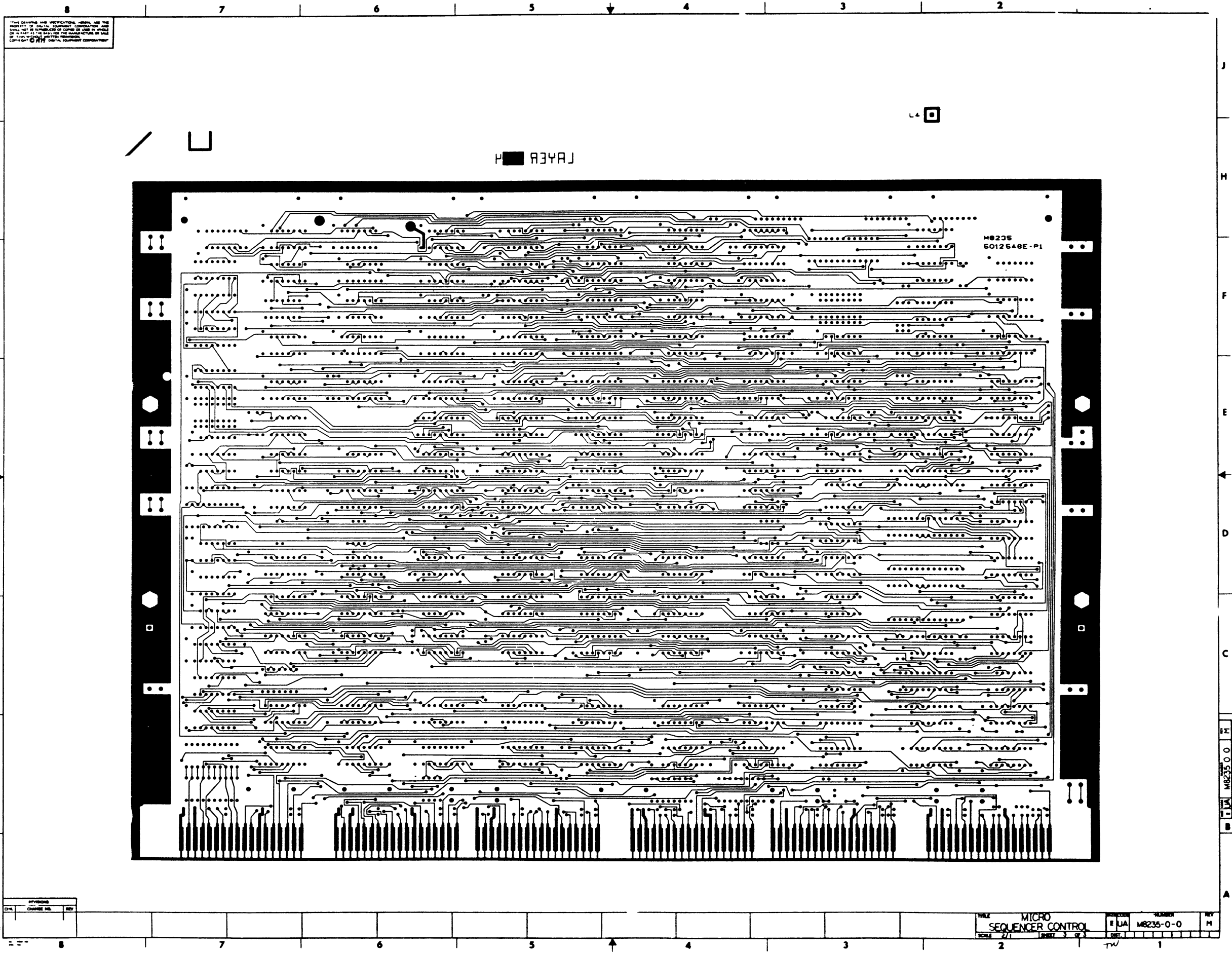
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

REVISIONS		
CHK	CHANGE NO.	REV.

(BUS CS (95:88))		(NORMAL SLOT 22)	
PRCM CONTROL STORE (PCST)		(OPTION SLOT 20 OR 18)	
TITLE	SIZE/CODE	NUMBER	REV.
D CS M8234-0-1	B	17 OF 17	
SCALE	SHEET	DIST.	







SHEET A1 OF A2

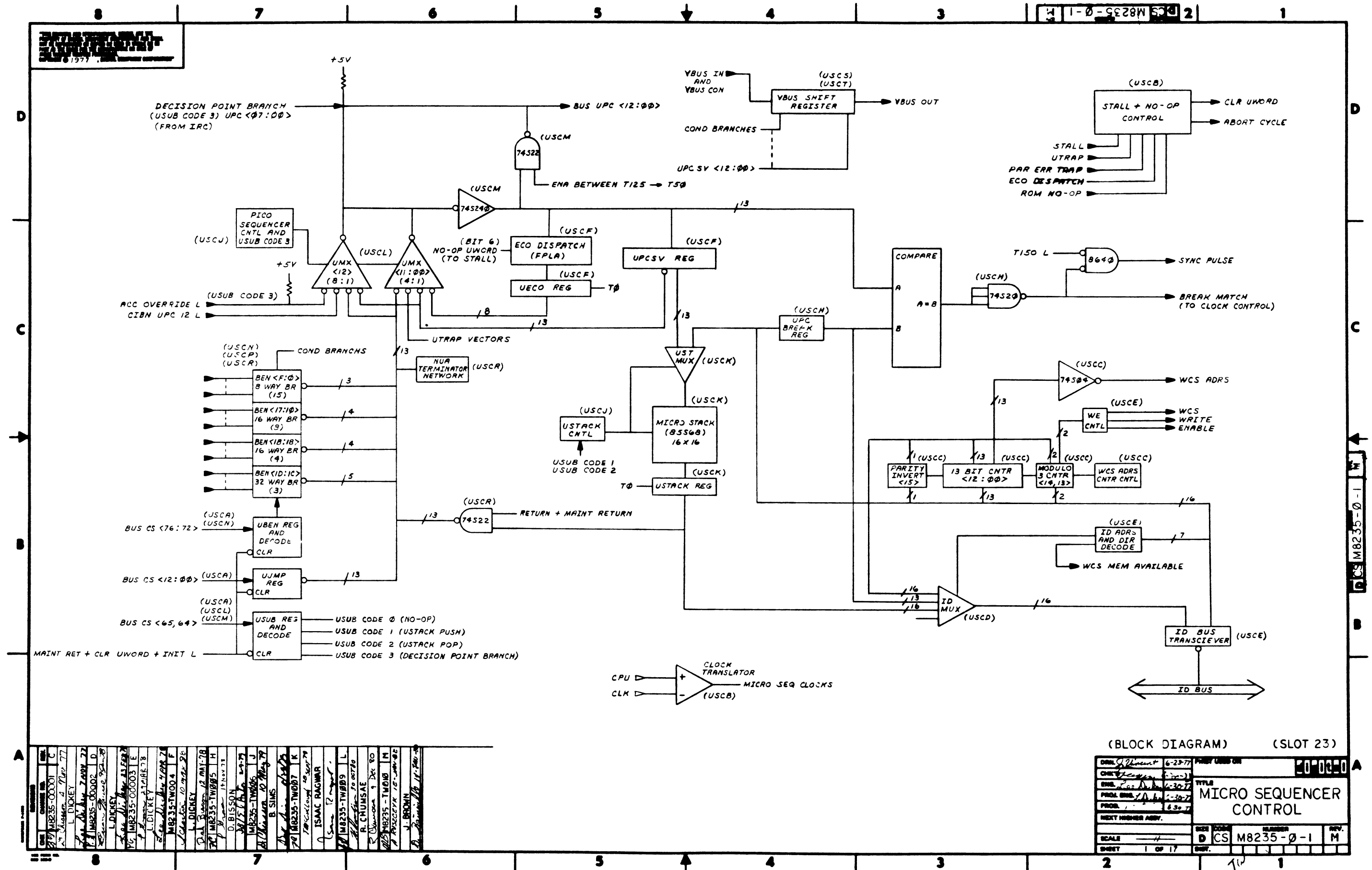
REVISION HISTORY			BASIC PART NO: M8235		DRN: M. FUNARO		DATE: 12-APR-78		D I G I T A L			
ENG	ECO NUMBER	REV	SECTION A OF A		CHK'D: F. GAROFALO		DATE: 12-APR-78		TITLE PARTS LIST			
S.C	00004	F	SECTION.VARIATION INDEX		DES.ENG: BOB SIMS		DATE: 18-MAY-78		MIRCO SEQ. CONTROL			
LD	TW006	J	[A] 00		RESP.ENG.: L.DICKEY		DATE: 18-MAY-78		DOCUMENT NUMBER			
S.J	TW007	K	[B]		MFG.ENG.: M. TERELLA		DATE: 18-MAY-78		SIZE CODE NUMBER REV			
RC	M8235-TW009	L	[C]		ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME: EDIT #			
JB	M8235-TW010	M	[D]		E-UA-M8235-0-0		M6235		Z0387M.PLS 19			
			[E]									
			[F]									
			[H]									
			[J]									
			[K]									
			[L]									
			[M]									
			[N]									

"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT (C) 1982. DIGITAL EQUIPMENT CORPORATION"

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
25	25		1910546-00	74S140 NAND GATE-DUAL 4INPU	1	E28
26	26		1910547-00	74S153 MUX 1 OF 4 (DUAL)	13	E1, E31, E42, E43, E55, E56, E68, E69,
						CONT E53, E66, E81, E82, E93
27	27		1910548-00	74S157 MUX 1 OF 2 (QUAD)	5	E12, E48, E61, E74, E87
28	28		1910550-00	74S174 FF-D HEX	4	E2, E3, E58, E71
29	29		1910552-00	74S194 SHIFT REG. 4BIT RIGH	5	E10, E46, E59, E72, E85
30	30		1910950-00	74S74 FF-D DUAL 1-45 VERSI	5	E26, E37, E38, E84, E90
31	31		1910956-00	74S151 MUX 1 OF 8	3	E17, E18, E29
32	32		1910957-00	74S175 FF-D QUAD COMMON CLO	6	E63, E96, E106, E136, E138, E140
33	33		1911415-00	10125 ECL TO TTL TRNSLTR	3	E40, E79, E92
34	34		1911469-00	8640 RECEIVER, BUS, QUAD, U	1	E101
35	35		1911675-00	74S138 DECODER/DEMUX 3-8 LIN	1	E105
36	36		1911676-00	74S139 DECODER-DUAL TWO-INP	1	E75
37	37		1911712-00	74S51 AND-OR GATE-INVERT D	1	E24
38	38		1912089-00	74S85 CMPRTR-4BIT MAGNITUD	4	E97, E98, E104, E111
39	39		1912586-00	DM 85S68N REGISTER, 64BIT EDGE	4	E47, E60, E73, E86
40	40		1912660-00	74S253 MUX 1 OF 4 (DUAL)	6	E117, E118, E120, E131, E132, E134
41	41		1912728-00	74S251 MUX 1 OF 8 TRI-STA	1	E135
42	42		1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	2	E50, E102
43	43		1912796-00	74148 EXCODER, PRIORITY, 8 T	1	E64
44	44		1912820-00	LS51 A-0-I GATE 2-WIDE 2I	1	E25
45	45		1912865-00	LS283 ADDER-4BIT BINARY FU	2	E11, E13
46	46		1913462-00	74S240 OCTAL BUFFER, INVERTI	2	E124, E125
47	47		1913671-00	74S374 FF-D OCTAL TRISTATE	1	E113
48	48		1913839-00	74LS165 SHIFT REG., 8BIT	13	E15, E16, E19, E30, E33, E36, E45, E62,
						CONT E100, E137, E139, E141, E142
49	49		1913788-00	26S10 TRANSCEIVER, BUS, QUA	4	E41, E54, E67, E80
50	50		1913294-00	93S16 COUNTER, SYNCH UP, BIN	4	E44, E57, E70, E83
51	51		23066C6-00	C6-02	1	E121
52	52		1210711-02	/REPLACED BY 12-16988-02	1	
53	53		9000024-01	EYELET, ROLL FLANGE .1210DX .192	12	
54	54		9105740-55	WIRE (WRAP) 30AWG UL1423	A/R	
55	55		1300316-00	470.0 .25 W 5.0 % CC	27	
						CONT R29, R31, R33, R35, R38, R39, R42, R45,
						CONT R46, R51-R55, R64, R67, R68, R70-R73,
						R83-R86, R111, R28
56	56		23067C6-00	C6-02	1	E122
57	57		23068C6-00	C6-02	1	E123

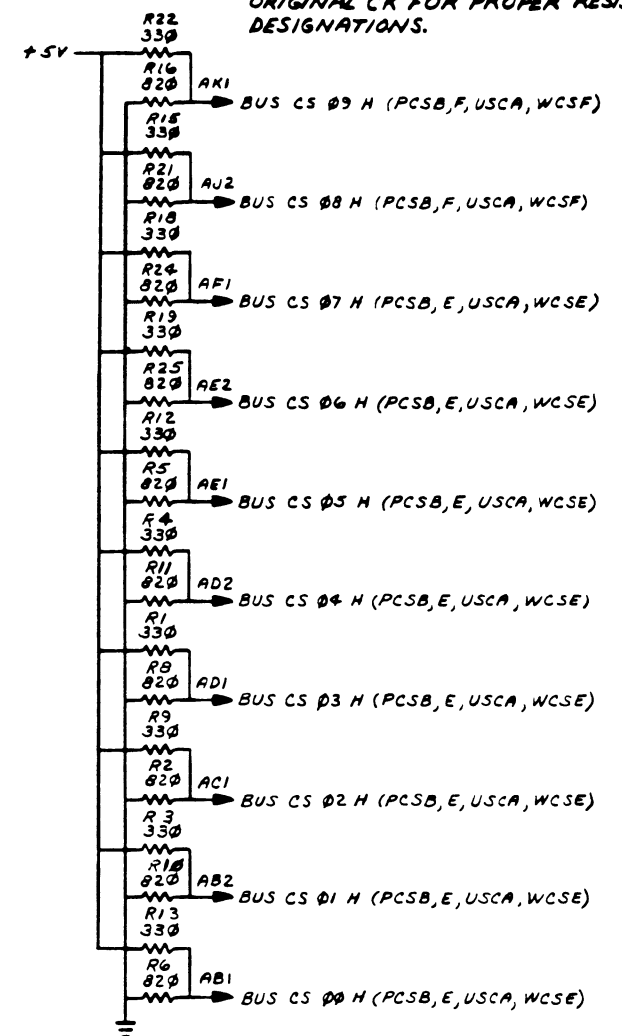
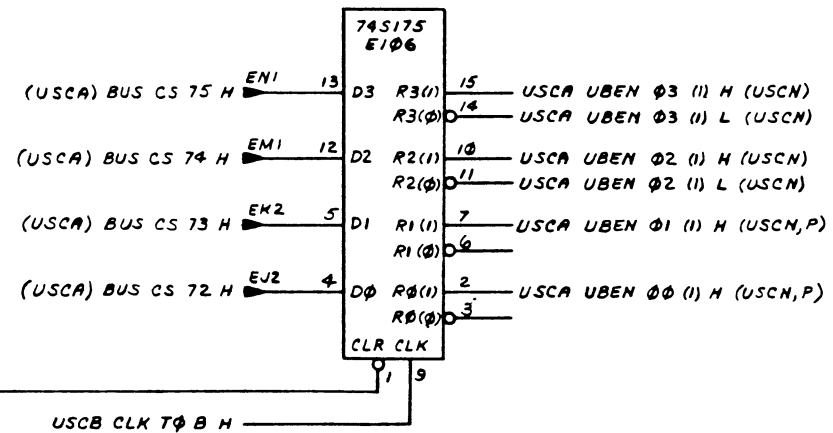
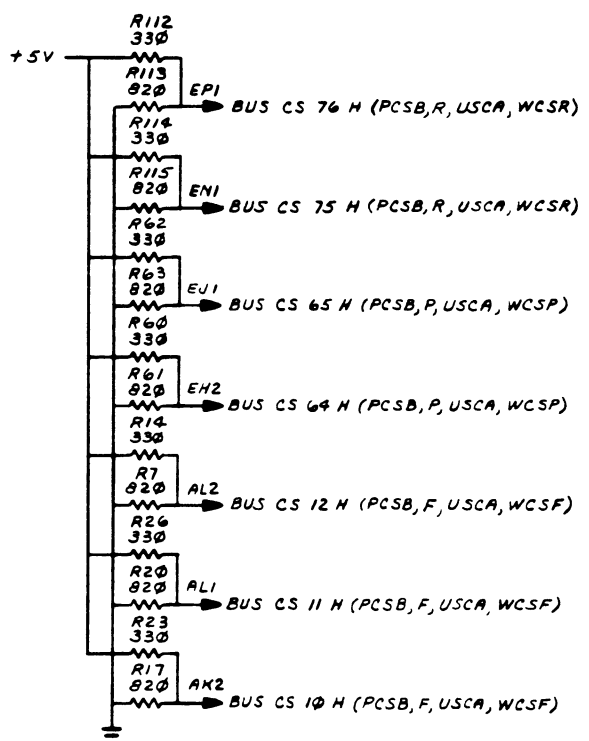
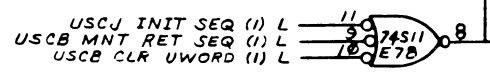
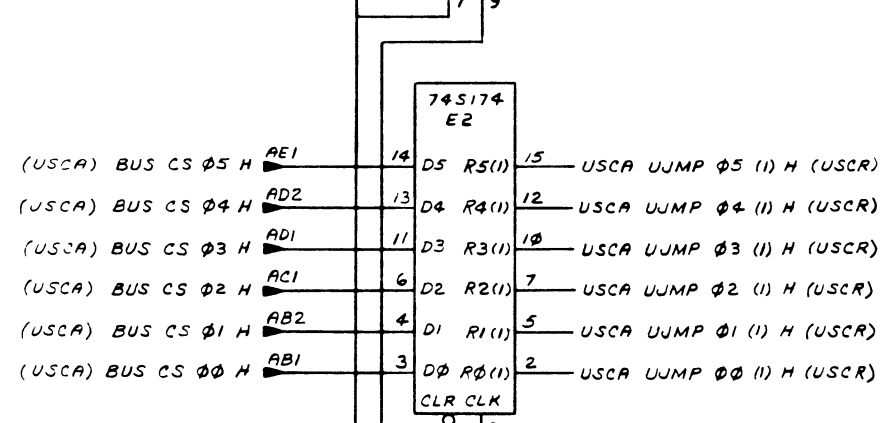
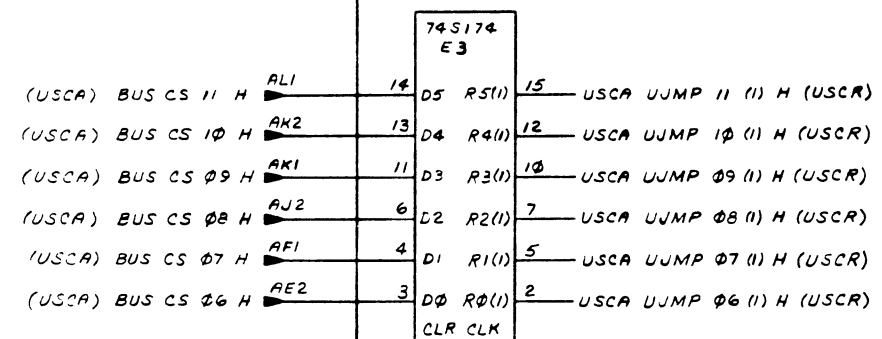
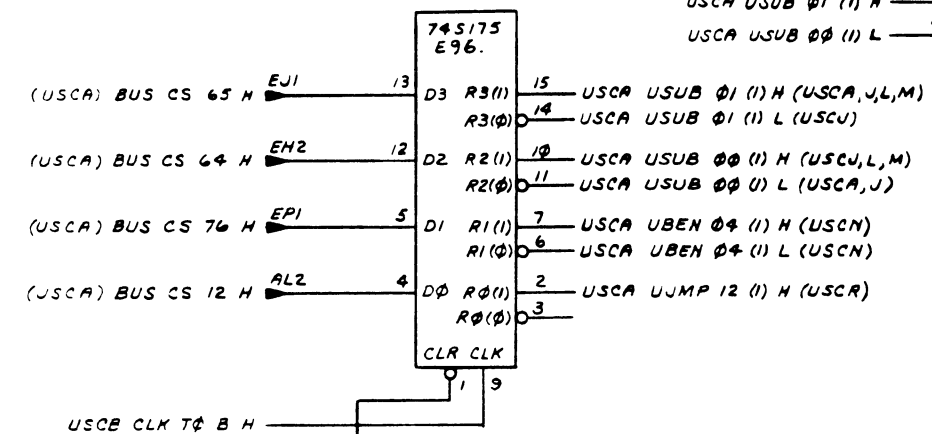
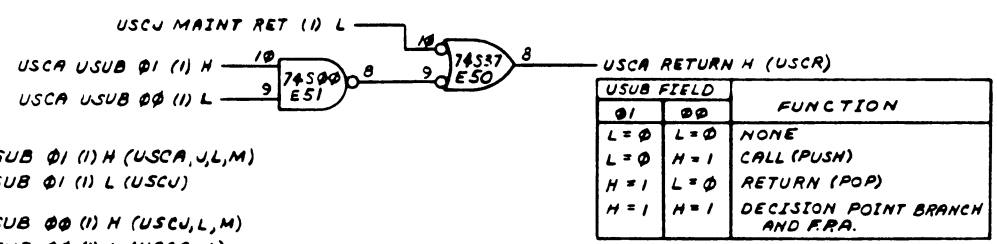
58 NOTE: COMPONENTS NOT USED: C78, C90, C94, C107-C131, C140
59 NOTE: SPARE I.C.'S E9, E116

D	I	G	I	T	A	L	TITLE	MIRCO SEQ. CONTROL	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
										K	PL	M8235-0-DBP	M



NOTE: IF NOTES ON RES VALUES ARE ON ORIGINAL CK FOR PROPER RESISTORS. DESIGNATIONS.

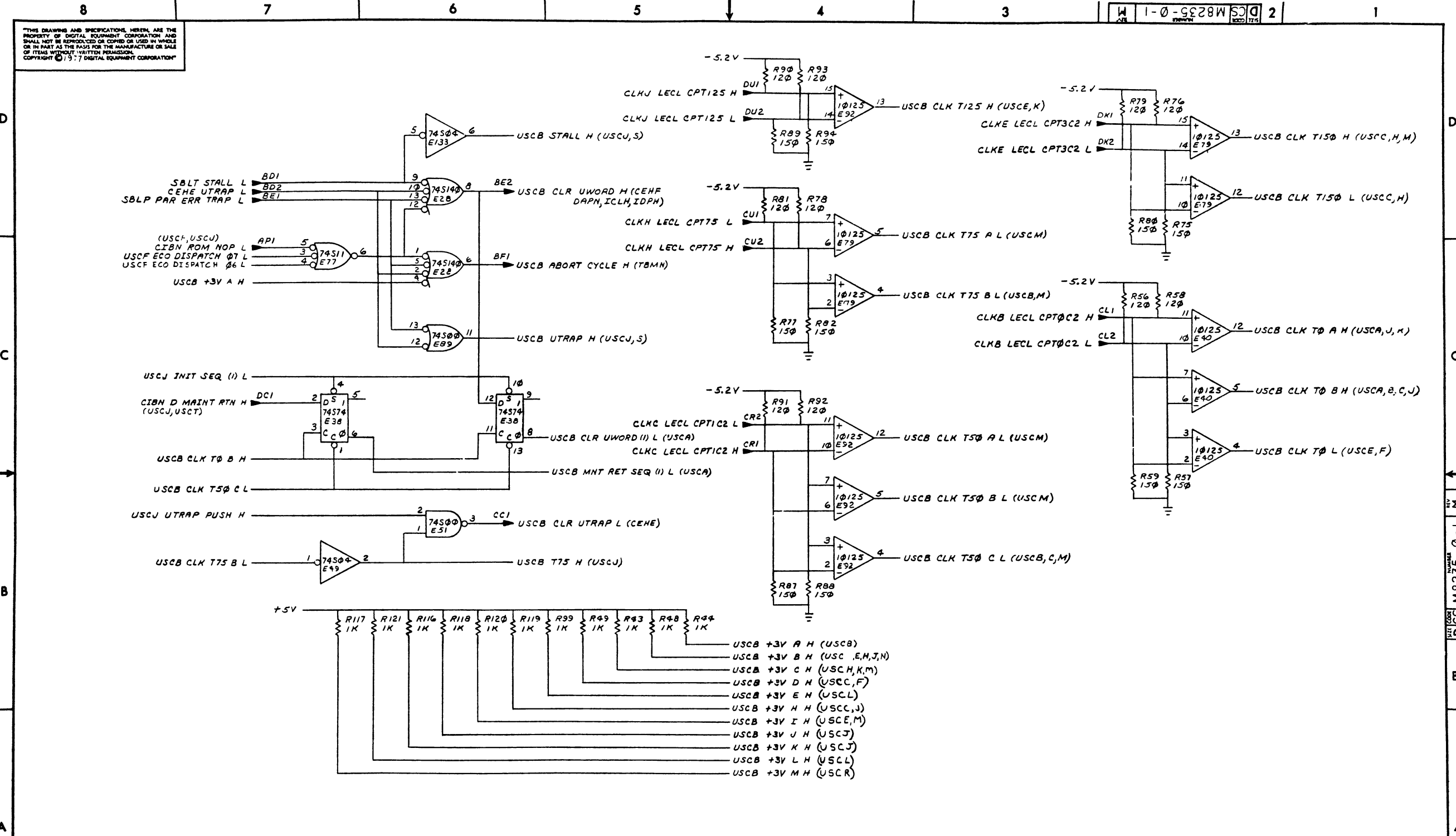
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND ARE NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM DIGITAL EQUIPMENT CORPORATION.

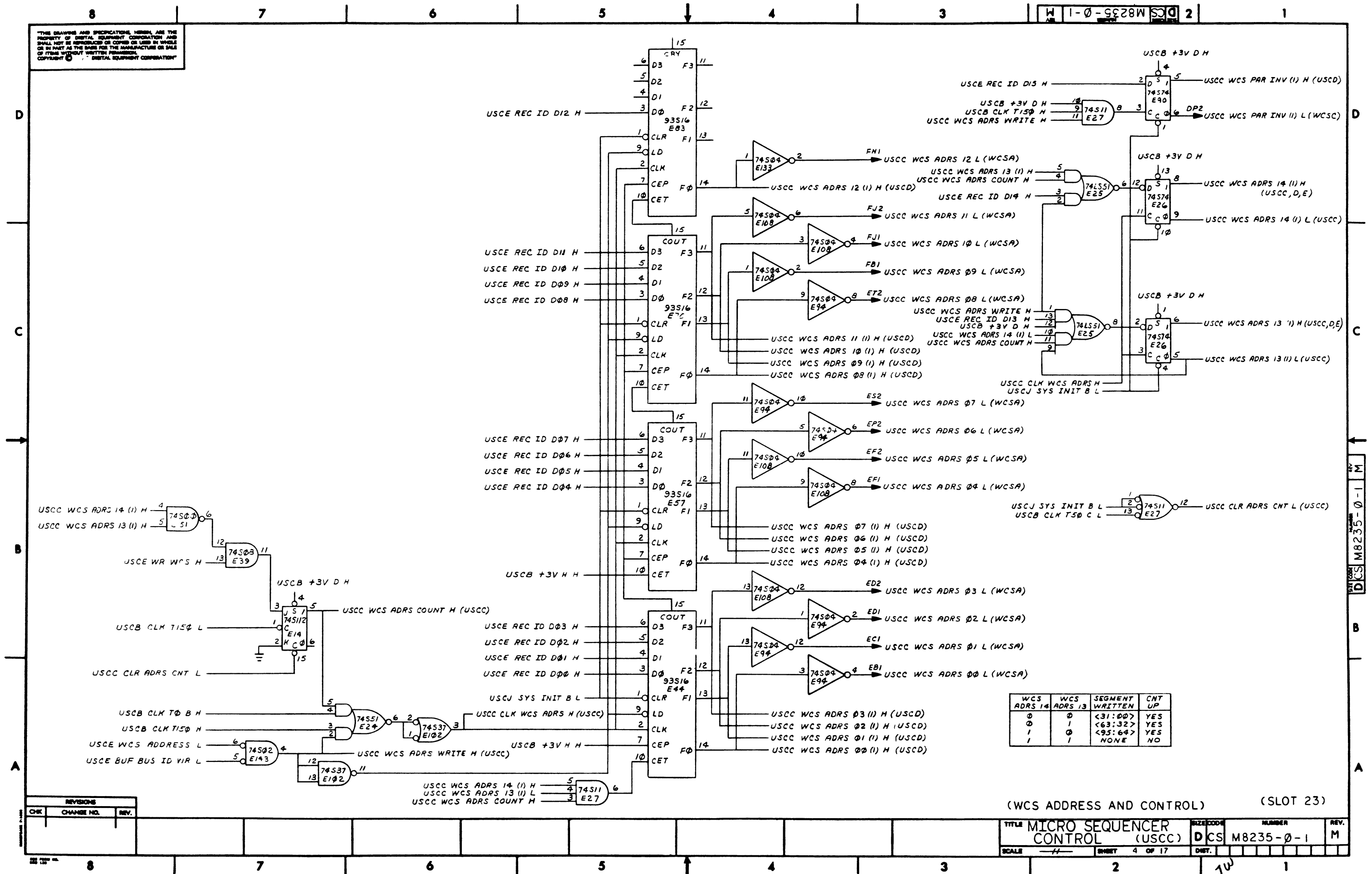


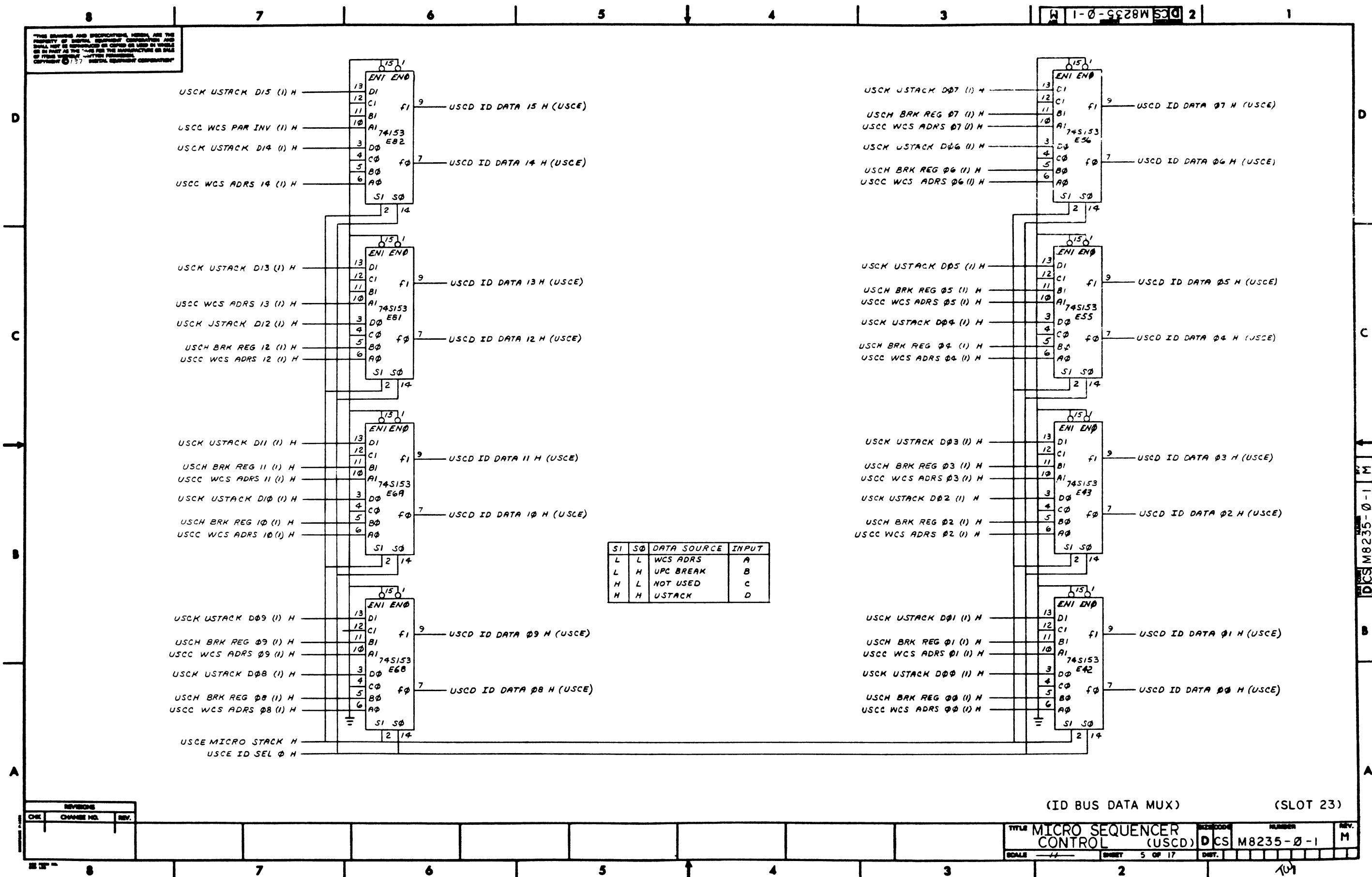
(MICRO FIELD REGISTERS) (SLOT 23)

REV.	CHANGE NO.	REV.

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION







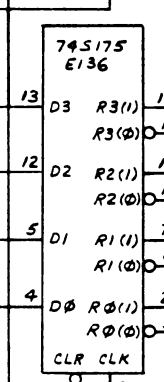
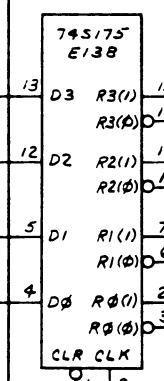
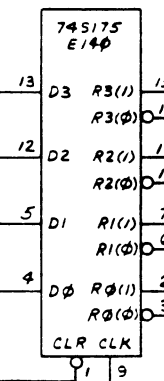
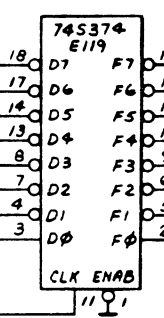
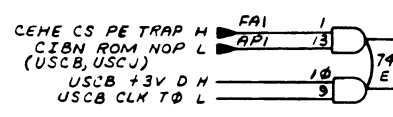
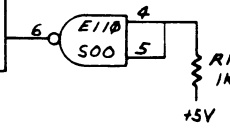
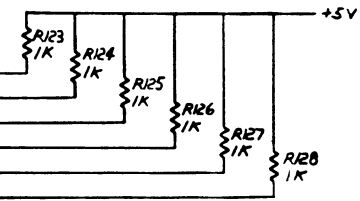
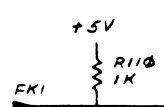
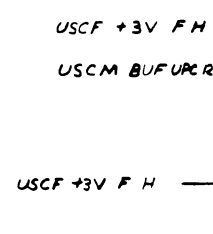
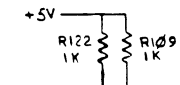
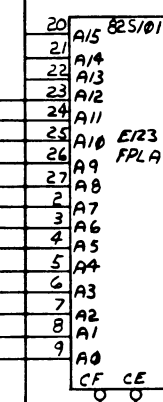
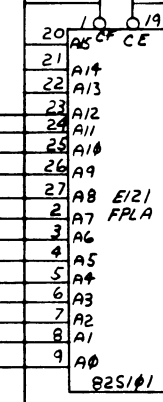
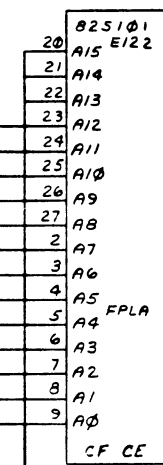
10 1

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

USCM BUF UPC 12 H
USCM BUF UPC 11 H
USCM BUF UPC 10 H
USCM BUF UPC 09 H
USCM BUF UPC 08 H
USCM BUF UPC 07 H
USCM BUF UPC 06 H
USCM BUF UPC 05 H
USCM BUF UPC 04 H
USCM BUF UPC 03 H
USCM BUF UPC 02 H
USCM BUF UPC 01 H
USCM BUF UPC 00 H

USCM BUF UPC 12 H
USCM BUF UPC 11 H
USCM BUF UPC 10 H
USCM BUF UPC 09 H
USCM BUF UPC 08 H
USCM BUF UPC 07 H
USCM BUF UPC 06 H
USCM BUF UPC 05 H
USCM BUF UPC 04 H
USCM BUF UPC 03 H
USCM BUF UPC 02 H
USCM BUF UPC 01 H
USCM BUF UPC 00 H

USCM BUF UPC 12 H
USCM BUF UPC 11 H
USCM BUF UPC 10 H
USCM BUF UPC 09 H
USCM BUF UPC 08 H
USCM BUF UPC 07 H
USCM BUF UPC 06 H
USCM BUF UPC 05 H
USCM BUF UPC 04 H
USCM BUF UPC 03 H
USCM BUF UPC 02 H
USCM BUF UPC 01 H
USCM BUF UPC 00 H



USCF UECO 07 (1) L (USCL)
USCF UECO 06 (1) L (USCL)
USCF UECO 05 (1) L (USCL)
USCF UECO 04 (1) L (USCL)
USCF UECO 03 (1) L (USCL)
USCF UECO 02 (1) L (USCL)
USCF UECO 01 (1) L (USCL)
USCF UECO 00 (1) L (USCL)

USCF UPCSV 11 (1) H (USCK, M, S)
USCF UPCSV 11 (1) L (USCL)
USCF UPCSV 10 (1) H (USCK, M, S)
USCF UPCSV 10 (1) L (USCL)
USCF UPCSV 09 (1) H (USCK, M, S)
USCF UPCSV 09 (1) L (USCL)
USCF UPCSV 08 (1) H (USCK, M, S)
USCF UPCSV 08 (1) L (USCL)

USCF UPCSV 07 (1) H (USCK, M, S)
USCF UPCSV 07 (1) L (USCL)
USCF UPCSV 06 (1) H (USCK, M, S)
USCF UPCSV 06 (1) L (USCL)
USCF UPCSV 05 (1) H (USCK, M, S)
USCF UPCSV 05 (1) L (USCL)
USCF UPCSV 04 (1) H (USCK, M, S)
USCF UPCSV 04 (1) L (USCL)

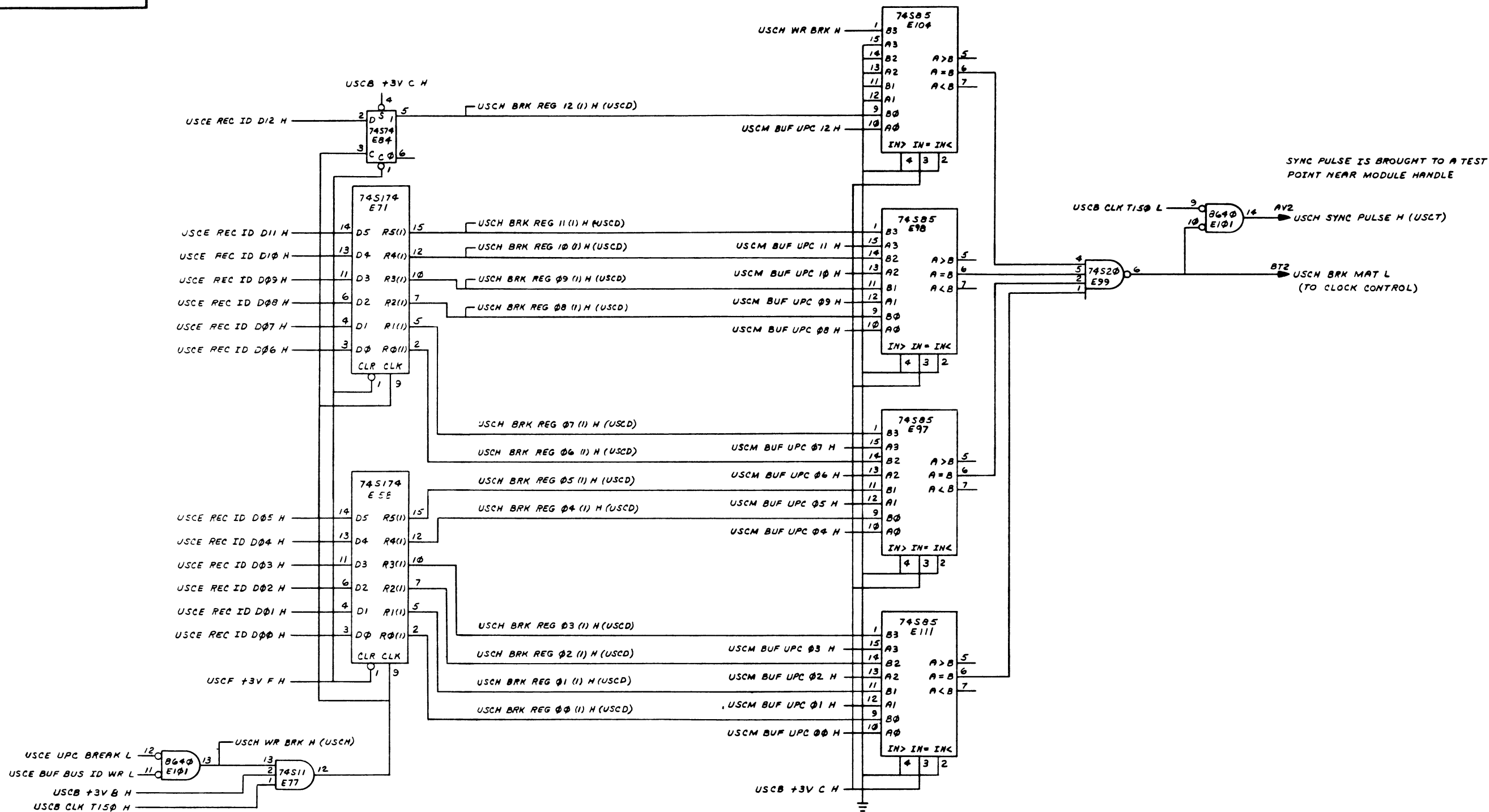
USCF UPCSV 03 (1) H (USCK, M, S)
USCF UPCSV 03 (1) L (USCL)
USCF UPCSV 02 (1) H (USCK, M, S)
USCF UPCSV 02 (1) L (USCL)
USCF UPCSV 01 (1) H (USCK, M, S)
USCF UPCSV 01 (1) L (USCL)
USCF UPCSV 00 (1) H (USCK, M, S)
USCF UPCSV 00 (1) L (USCL)

(MICRO PC SAVE AND ECO REGISTER) (SLOT 23)

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE		SCALE	SHEET	NUMBER		REV.
MICRO SEQUENCER CONTROL (USCF)		—/—	7 OF 17	D CS M8235-0-1		M

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

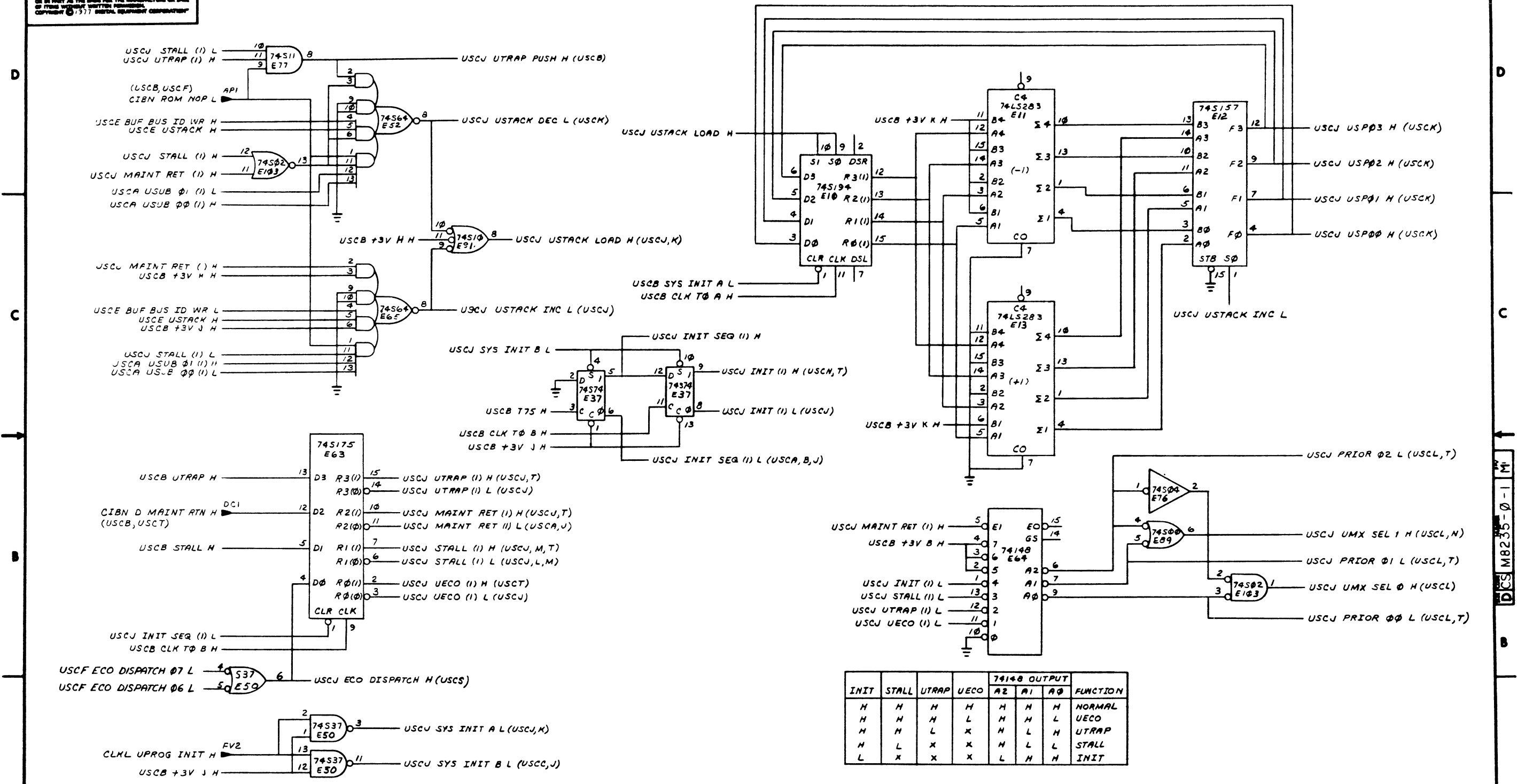


REVISIONS		
CHK	CHANGE NO.	REV.

(MICRO BREAK REG AND COMPARE) (SLOT 23)

TITLE		MICRO SEQUENCER CONTROL (USCH)		DRAWING NO.		REVISION		REV.	
SCALE		SHEET		8 OF 17		D E S		M	

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

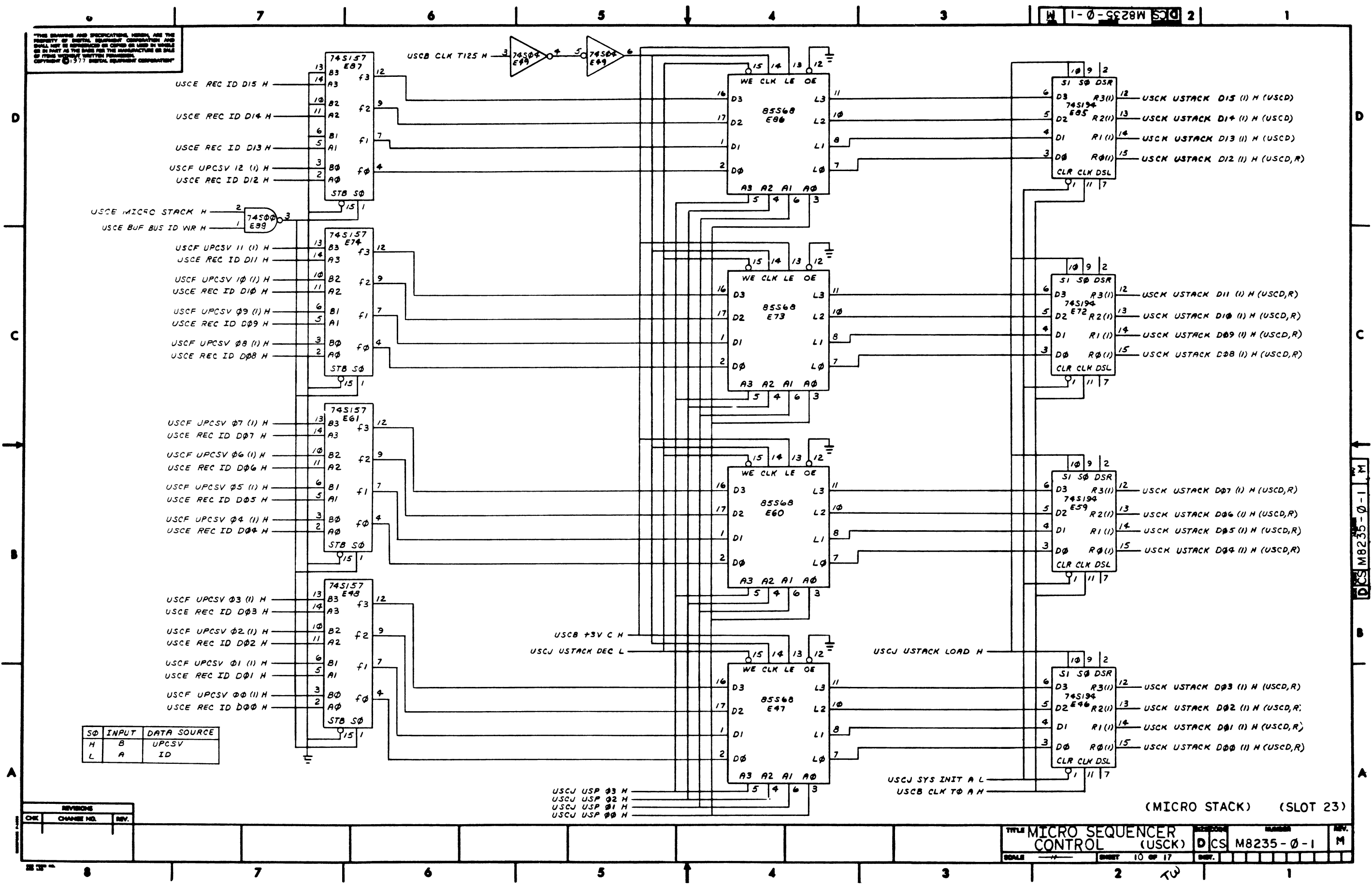


INIT	STALL	UTRAP	UECO	74148 OUTPUT			FUNCTION
				A2	A1	A0	
H	H	H	H	H	H	H	NORMAL
H	H	H	L	H	H	L	UECO
H	H	L	X	H	L	H	UTRAP
H	L	X	X	H	L	L	STALL
L	X	X	X	L	H	H	INIT

(INTERNAL CONTROL, MICRO STACK POINTER, AND INIT) (SLOT 23)

REVISIONS		
CHK	CHANGE NO.	REV.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ANY EQUIPMENT WITHOUT PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

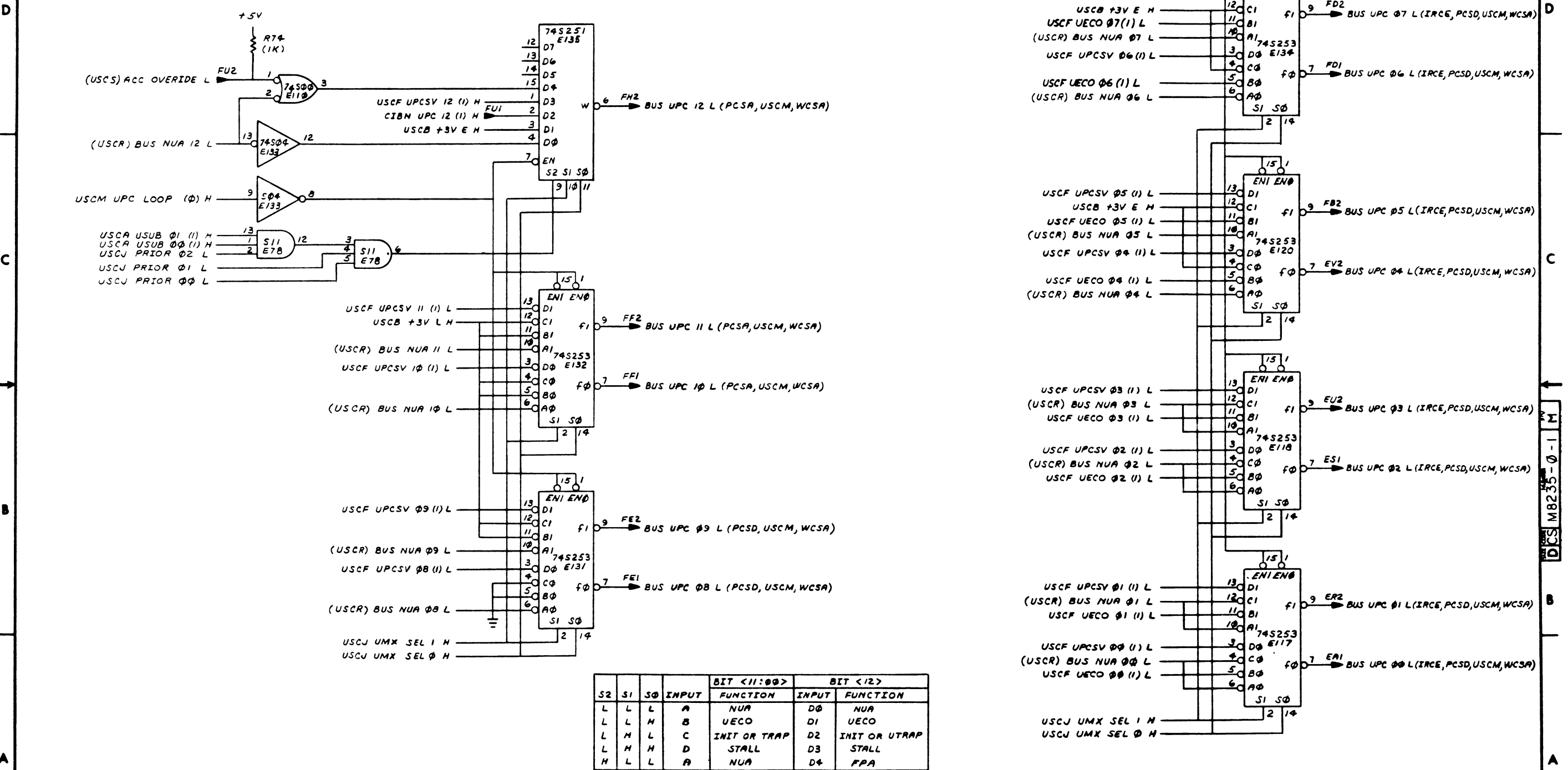


S0	INPUT	DATA SOURCE
H	B	UPCSV
L	A	ID

REV.	CHANGE NO.	REV.

TITLE	MICRO SEQUENCER CONTROL (USCK)	DCS	M8235-0-1	M
SCALE	10 OF 17	REV.		

THE DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

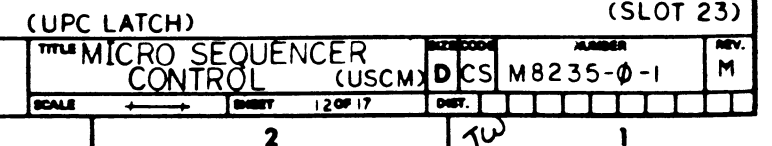


(MICRO MULTIPLEXER) (SLOT 23)

REVISIONS		
CHK	CHANGE NO.	REV.

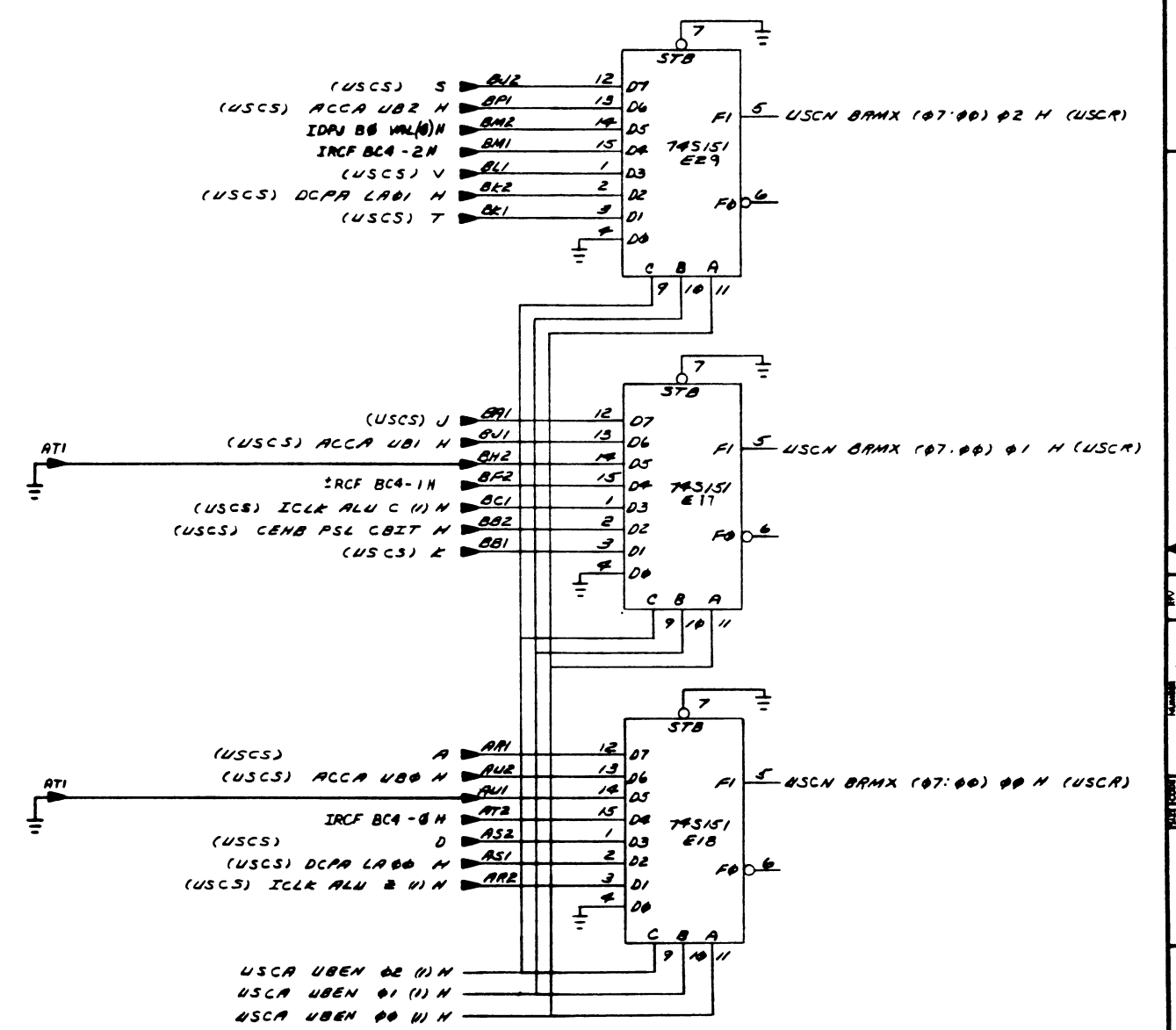
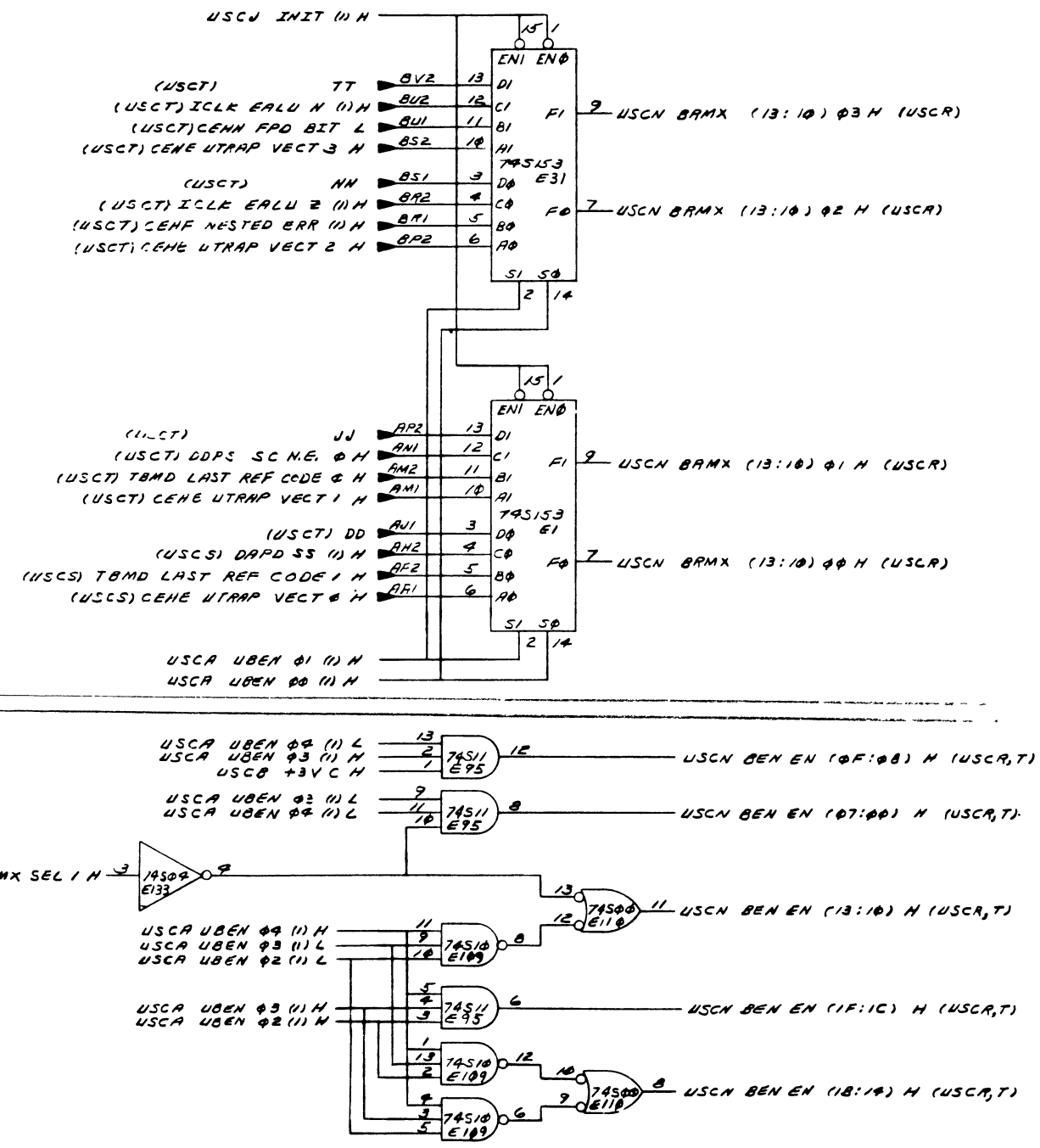
TITLE MICRO SEQUENCER CONTROL (USCL)		NUMBER DCS M8235-0-1	REV. M
SCALE 1:1	SHEET 11 OF 17	DATE 	

2



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

Φ7	Φ3	Φ2	Φ1	Φ0	FUNCTION	BEN EN	BEN
0	0	X	X	X	NORMAL	<07:00>	DETERMINED BY X
0	1	X	X	X	NORMAL	<06:00>	DETERMINED BY X
1	0	X	X	X	NORMAL	<13:10>	DETERMINED BY X
1	0	1	X	X	NORMAL	<17:10>	DETERMINED BY X
1	1	0	X	X	NORMAL	<18:10>	DETERMINED BY X
1	1	1	X	X	NORMAL	<1F:1C>	DETERMINED BY X
0	0	0	0	0	INIT OR UTRAP	<13:10>	BEN 10

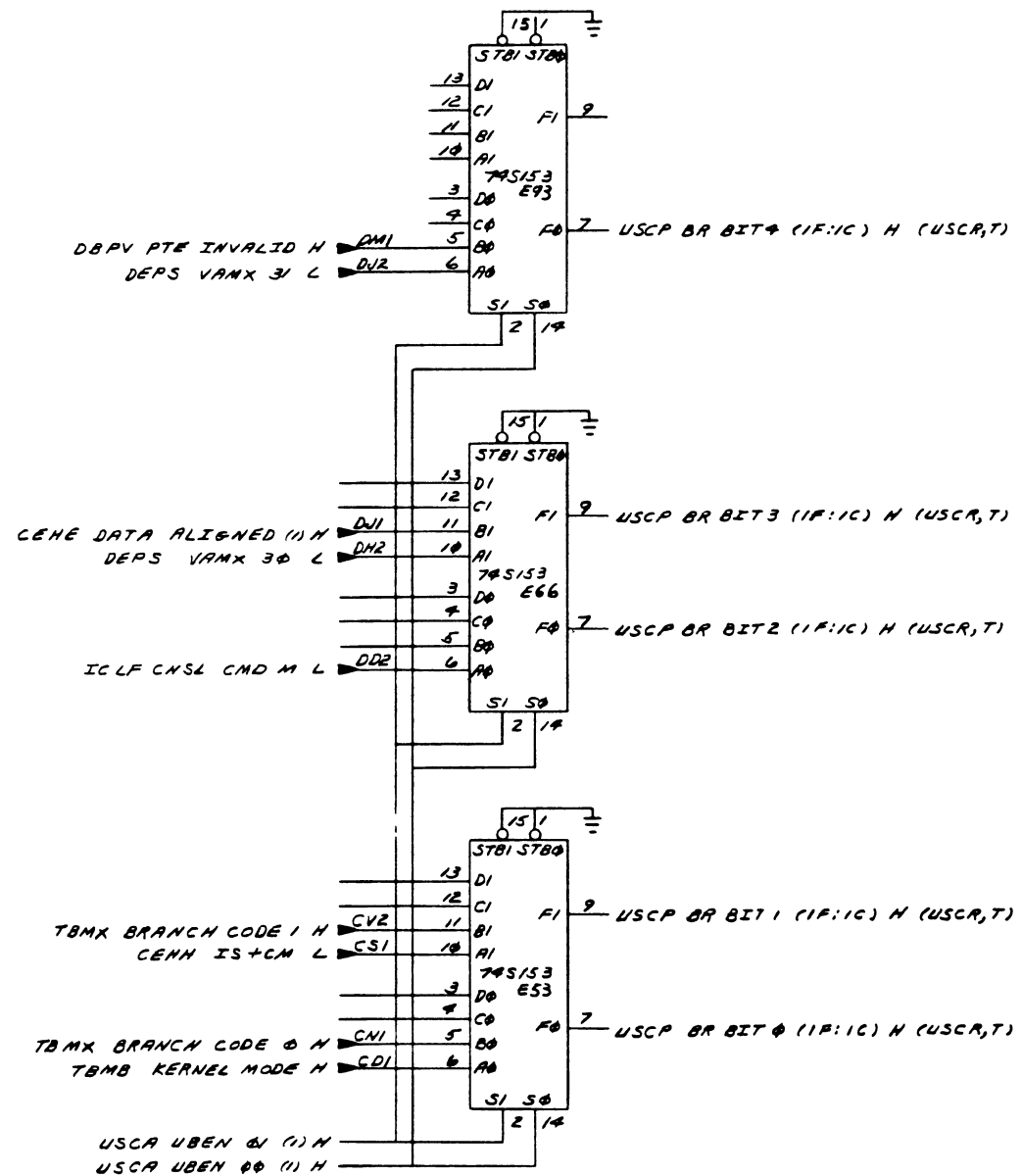


REV.	CHANGE NO.	REV.
1		

(BRANCH ENABLE CONTROL) (SLOT 23)

TITLE	MICRO SEQUENCER CONTROL (USCN)	DATE	1-0-5E28W	NUMBER	M8235-0-1	REV.	M
SCALE	13 OF 17	CHART		CHART			

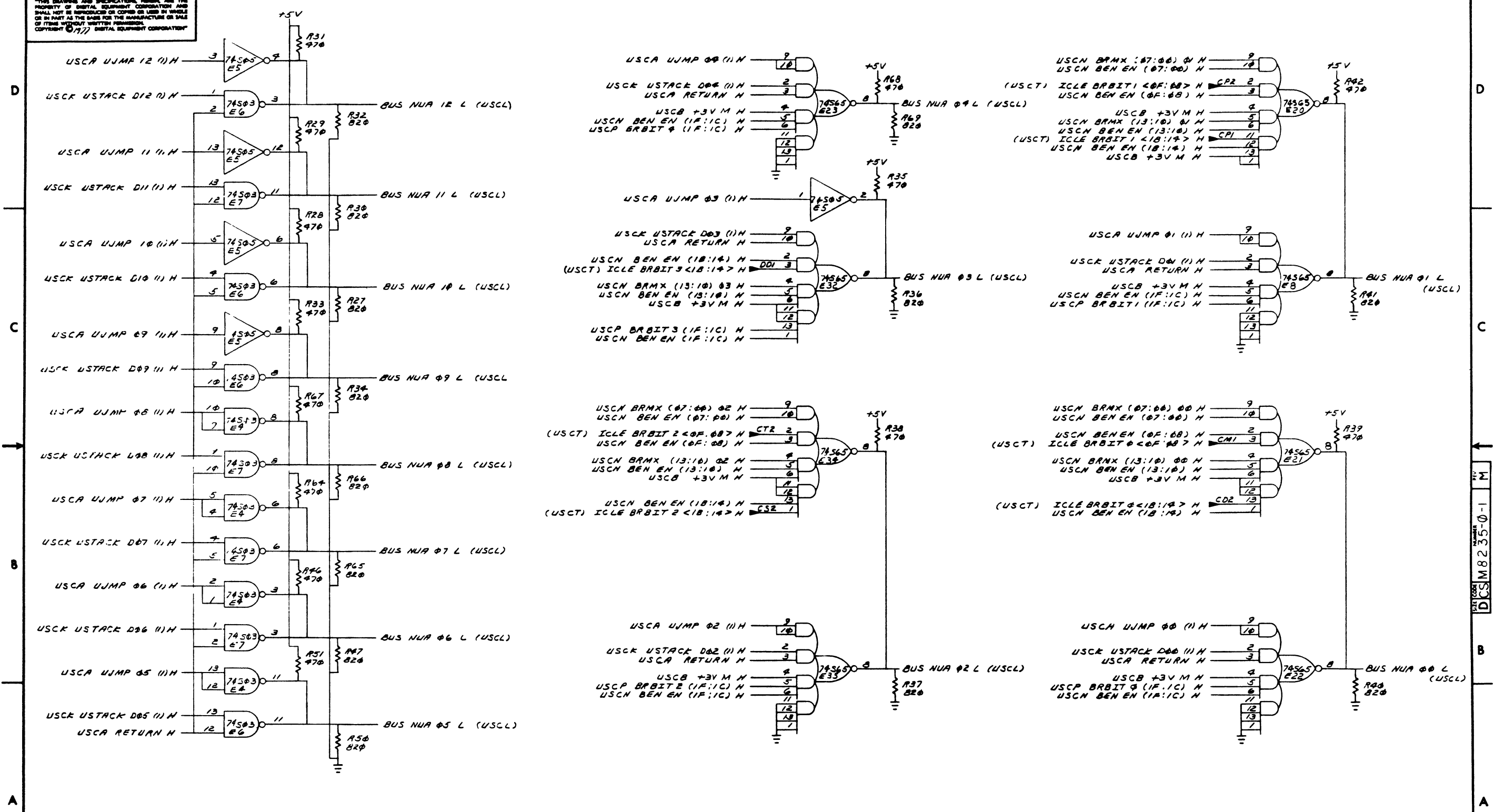
THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS		
CHK	CHANGE NO.	REV.

(BRANCH)		(SLOT 23)	
TITLE	MICRO SEQUENCER CONTROL (USCP)	DATE CODE	NUMBER
SCALE	14 OF 17	DIST.	REV. M
SHEET		DCS M8235-0-1	

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



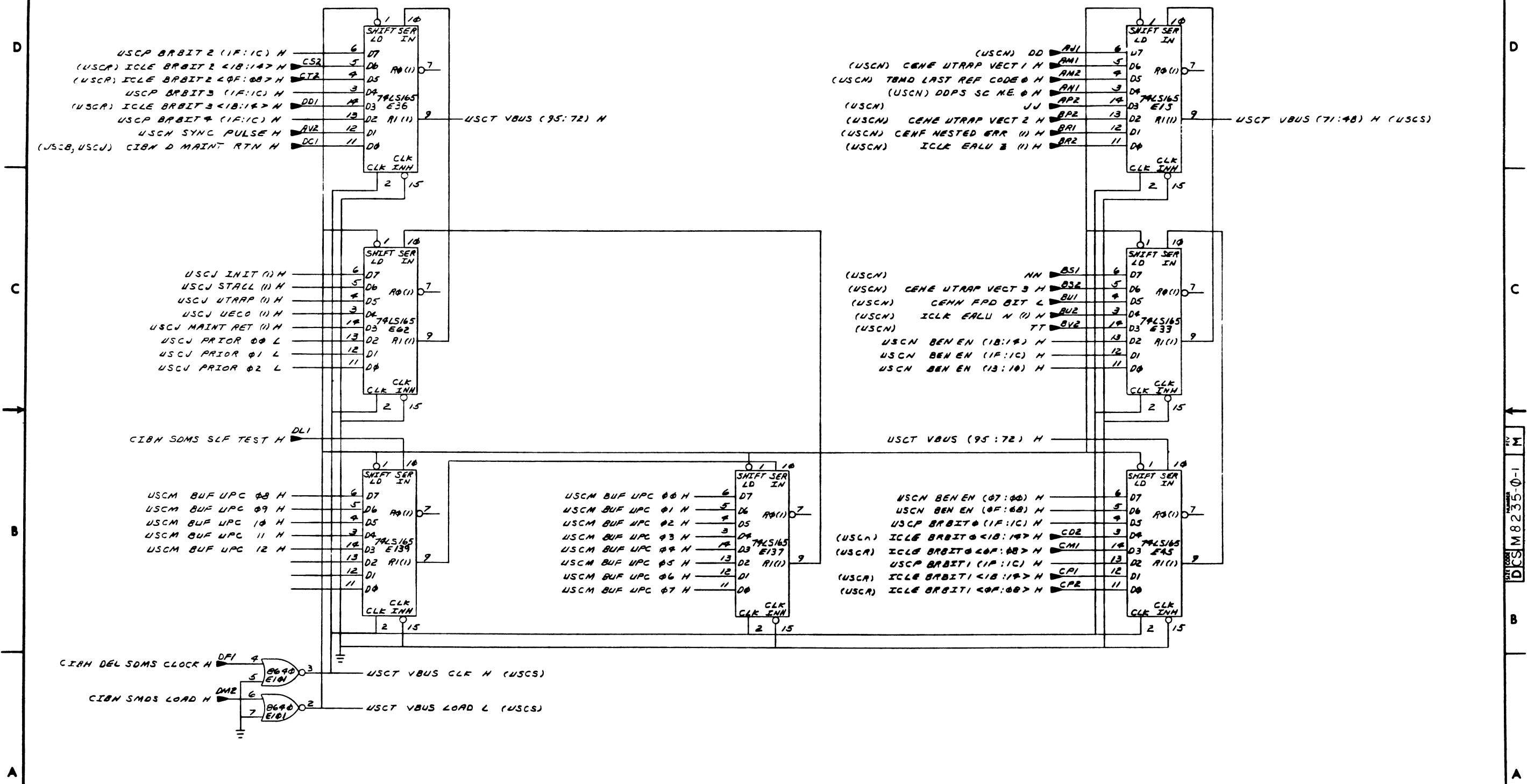
REVISIONS		
CHK	CHANGE NO.	REV.

(NEXT MICRO ADDRESS)				(SLOT 23)			
TITLE MICRO SEQUENCER CONTROL (USCR)				SIZE CODE DCS		NUMBER M8235-0-1	
SCALE				SHEET 15 OF 17		DWT.	

REVISIONS		
CHK	CHANGE NO.	REV.

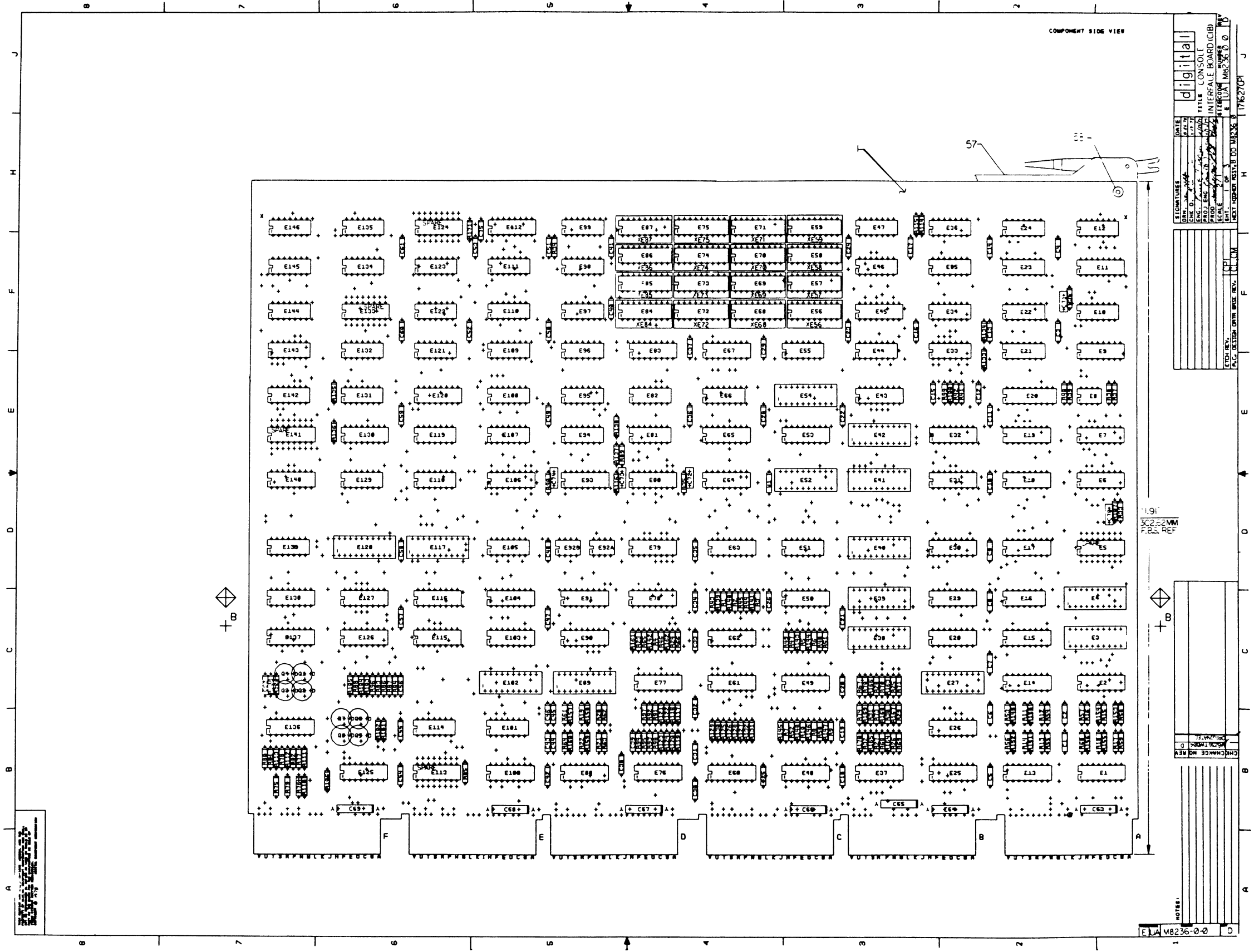
(VBUS)										(SLOT 23)									
TITLE MICRO SEQUENCER CONTROL (USCS)										SIZE CODE DCS		NUMBER M8235-0-1				REV. M			
SCALE					SHEET 16 OF 17					DST.									
					2							1							

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

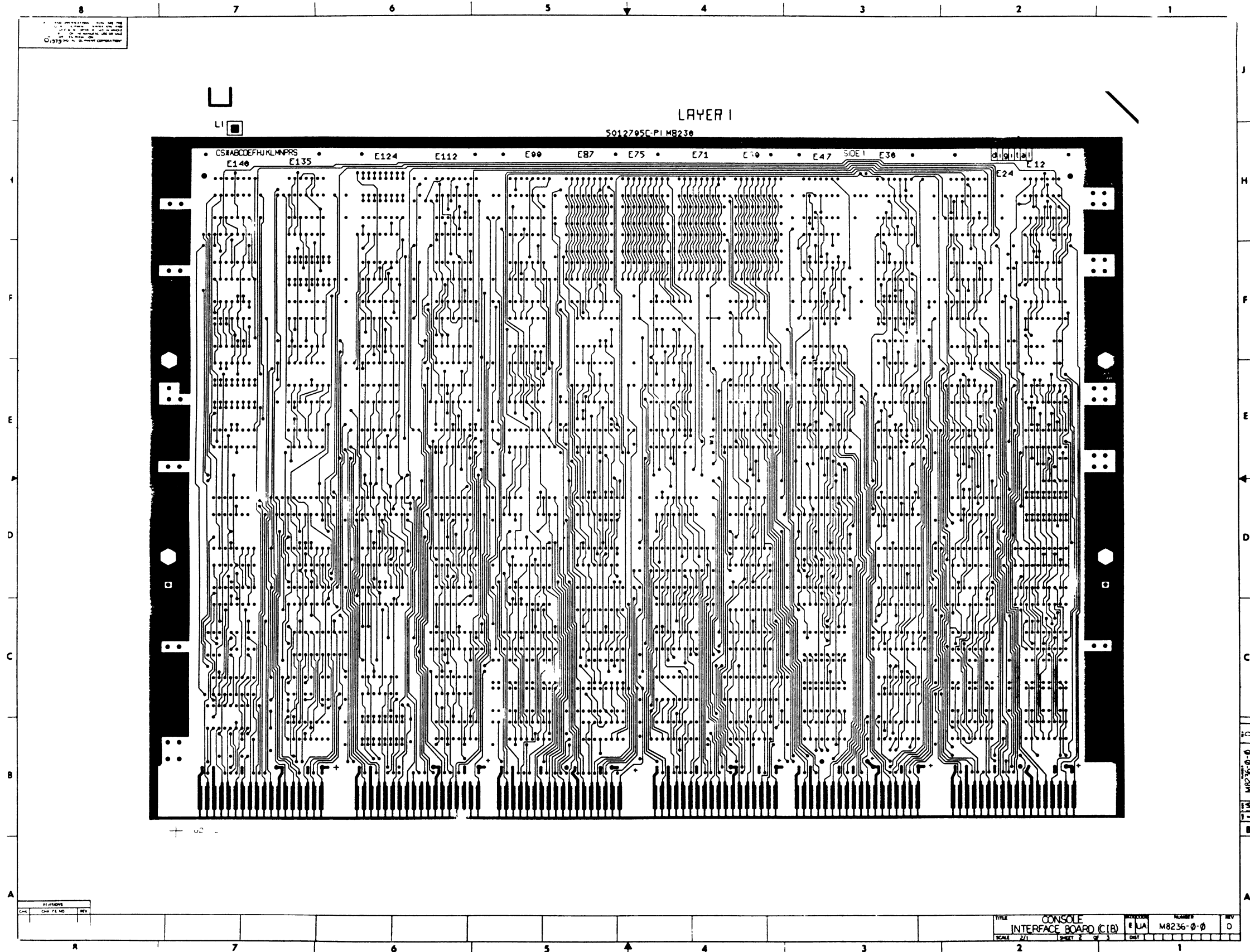


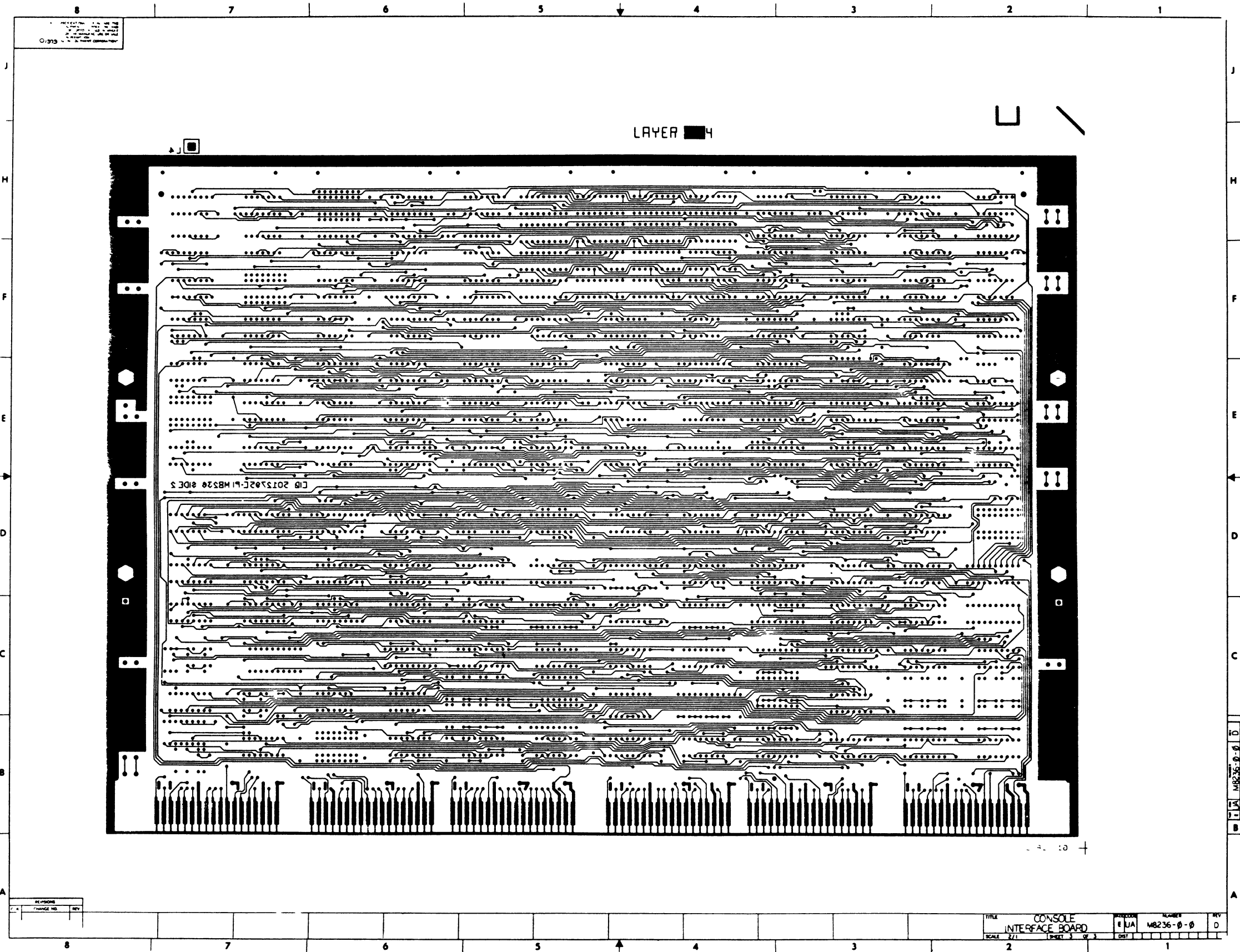
REVISIONS		
CHK	CHANGE NO.	REV.

(VBUS)				(SLOT 23)					
TITLE		MICRO SEQUENCER CONTROL (USCT)		SIZE CODE		NUMBER		REV.	
				D CS		M 8235-0-1		M	
SCALE		SHEET		DST.					
		17 OF 17							



digital	
TITLE: CONSOLE INTERPHASE BOARD (CIB)	
DATE: 01-17-77	BY: J. H. H.
CHK'D: J. H. H.	APP'D: J. H. H.
PROJ. ENG: J. H. H.	SCALE: 1/8" = 1"
REV. NO. 1	REV. DATE 01-17-77
DRAWN BY: J. H. H.	
CHECKED BY: J. H. H.	
APPROVED BY: J. H. H.	
PART NUMBER: 1762701	
ELECTRONIC DATA CENTER, INC.	
1762701	





LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
					00		
1	1		5012795-00	CONSOLE INTERFACE BOARD	1		
2	2		1000016-00	100.0 MMF 100V 5%200PFM DM15S	3		C70,C73,C74
3	3		1012084-01	8 MFD 25V 6% 30D AL EL	7		C63-C69
4	4		1012784-00	.047 MFD 50V -20+80 CER	64		C1-C26,C28-C62,C71,C72,C75
5	5		1300247-00	120 1/4W 5% CC	12		R37-R40,R119,R120,R123-R126, R129,R130
6	6		1313469-00	240 1/4W 5% CC	64	CONT	R1-R32,R139-R170
7	7		1300250-00	150 1/4W 5% CC	8		R117,R118,R121,R127,R128,R131, R132,R122
8	8		1301322-00	180 1/4W 5% CC	5	CONT	R101,R108,R133,R135,R137
9	9		1301972-00	270 1/4W 5% CC	32		R43-R74
10	10		1300309-00	390 1/4W 5% CC	7		R41,R99,R102,R109,R134,R136,R138
11	11		1301424-00	680 1/4W 5% CC	3		R36,R42,R100
12	12		1300365-00	1 K 1/4W 5% CC	34		R75-R88,R91-R98,R103-R107, R110-R115,R34
13	13		1312930-00	5.1 K 1/4W 5% CC	2	CONT	R33,R116
14	14		1302391-00	20 K 1/4W 5% CC	3		R35,R89,R90
15	15		1311003-01	R NETWORK 14-180 14-390	3		E29,E43,E53
16	16		1300005-01	R NETWORK 13-1K RESISTORS 5% DIP	1		E51
17	17		1511686-00	DEC5433 FET N 350MW 10 25 1A	8		Q1-Q8
18	18		1910532-00	74S00 NAND GATE-QUAD 2IN	3		E46,E121,E123
19	19		1912799-00	LS00 NAND-GATE-QUAD 2IN,P	2		E24,E119
20	20		1912388-00	74S02 NOR GATE-QUAD 2IN,PO	3		E12,E118,E134
21	21		1912801-00	LS02 NOR-GATE-QUAD 2IN	2		E35,E95
22	22		1910534-00	74S04 INVERTER GATE-HEX 1I	9		E16,E44,E101,E105,E107,E111, E114,E139,E146
23	23		1912803-00	LS04 INVERTER GATE-HEX 1I	1	CONT	E47
24	24		1912805-00	LS08 AND GATE-QUAD 2IN,PO	2		E97,E129
25	25		1910536-00	74S10 NAND GATE-TRIPLE 3IN	1		E99
26	26		1910537-00	74S11 AND GATE-TRIPLE 3INP	2		E55,E98

REVISION HISTORY		BASIC PART NO: M8236		DRN: L. GIAMMARINO		DATE: 02-FEB-78		D I G I T A L	
ENG	ECD NUMBER	REV	SECTION A OF A	CHK'D: L. GIAMMARINO		DATE: 02-FEB-78		TITLE PARTS LIST	
W.H	00002	B	SECTION VARIATION INDEX	CHK'D: L. GIAMMARINO		DATE: 02-FEB-78		CONSOLE INTERFACE BOARD	
PG	00003	C	[A] 00						
BS	TW004	D	[B]	DES.ENG: K. DUGGAN		DATE: 02-FEB-78			
BS	TW004	D	[C]					DOCUMENT NUMBER	
			[D]						
			[E]	RESP.ENG.: K. DUGGAN		DATE: 02-FEB-78			
			[F]					SIZE CODE NUMBER REV	
			[G]						
			[H]						
			[I]	MFG.ENG.: M. TERILLO		DATE: 02-FEB-78		K PL M8236-0-DBF D	
			[J]						
			[K]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:	
			[L]	E-UA-M8236-0-0				20642D.PLS	
			[M]					EDIT #	
			[N]					14	

THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT (C) 1979, DIGITAL EQUIPMENT CORPORATION

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
27	27		1910539-00	74S20 NAND GATE-DUAL 4INPU	1	E132
28	28		1912810-00	LS20 NAND GATE-DUAL 4IN	1	E36
29	29		1912813-00	LS27 NOR GATE-TRIPLE 3IN	1	E108
30	30		1913340-00	74S32 OR GATE-QUAD 2IN	6	E10,E21,E22,E23,E82,E131
31	31		1911712-00	74S51 AND-OR GATE-INVERT D	1	E122
32	32		1912820-00	LS51 A-O-I GATE 2-WIDE 2I	2	E110,E144
33	33		1910542-00	74S64 A-O-I GATE 4-2-3-2	3	E33,E142,E143
34	34		1910544-00	74S74 FF-D DUAL,EDGE TRIGG	5	E96,E109,E135,E145,E94
35	35		1912824-00	LS74 FF-D DUAL,EDGE TRIGG	2	E34,E81,
36	36		1912834-00	LS112 FF-JK DUAL,EDGE TRIG	1	E130
37	37		1910436-00	DEC 74123 ONE SHOT-DUAL,RETRIG	1	E93
38	38		1912837-00	LS123 ONE SHOT-DUAL,RETRIG	2	E80,E112
39	39		1911675-00	74S138 DECODER/DEMUX 3-8 LIN	1	E120
40	40		1911676-00	74S139 DECODER-DUAL TWO-INF	3	E9,E11,E67
41	41		1910547-00	74S153 MUX 1 OF 4 (DUAL)	1	E78
42	42		1910548-00	74S157 MUX 1 OF 2 (QUAD)	8	E2,E15,E50,E63,E90,E91,E125,E136
43	43		1911330-00	74173 FF-D QUAD,TRISTATE	1	E106
44	44		1910550-00	74S174 FF-D HEX	2	E45,E83
45	45		1912697-00	LS174 FF-D HEX W/CLEAR	1	E17
46	46		1912853-00	LS175 FF-D QUAD	2	E30,E140
47	47		1912728-00	74S251 MUX 1 OF 8 TRI-STA	16	E6,E7,E18,E19,E31,E32,E64,E65, CONT E103,E104,E115,E116,E126,E127, CONT E137,E138 E14,E25,E61,E79,E100 E3,E38,E39,E40,E89,E102,E117, CONT E128,E27
48	48		1911641-00	SN 74S257 MUX,QUAD 2 TO 1	5	
49	49		1912863-00	LS273 FF-D OCTAL W/CLEAR	9	
50	50	(SEE NOTE 75)	1910406-00	75451 DRIVER,PERIPH,DUAL,	3	
51	51		1913788-00	26S10 TRANSCEIVER,BUS,QUA	9	E1,E13,E26,E37,E48,E49,E62,E77, CONT E88 E28 E60,E76 E20 E4 E41,E42,E52,E54
52	52		1911579-00	8641 TRANSCEIVER,BUS,QUA	1	
53	53		1911415-00	10125 ECL TO TTL TRNSLTR	2	
54	54		1912730-00	DC 003 INTERRUPT,2 CIRCUIT	1	
55	55		1912729-00	DC 004 PROTOCOL,REG. SELECT	1	
56	56		1913040-00	DC 005 TRANSCEIVER 4BIT	4	
57	57		1210711-02	HANDLE,MODULE,HEX	1	
58	58		9000024-01	EYELET, ROLLED FLANGE, .121 OD X	12	
59	59		1215006-03	SOCKET 18PIN IC LOW PROFILE	16	XE56-XE59,XE68-XE75,XE84-XE87
60	60		23144F1-00	F1-01	1	E56
61	61		23145F1-00	F1-01	1	E68
62	62		23146F1-00	F1-01	1	E84
63	63		23147F1-00	F1-01	1	E72
64	64		23148F1-00	F1-01	1	E58
65	65		23149F1-00	F1-01	1	E70
66	66		23150F1-00	F1-01	1	E86
67	67		23151F1-00	F1-01	1	E74
68	68		23236F1-00	F1-01	1	E57
69	69		23237F1-00	F1-01	1	E69
70	70		23238F1-00	F1-01	1	E85

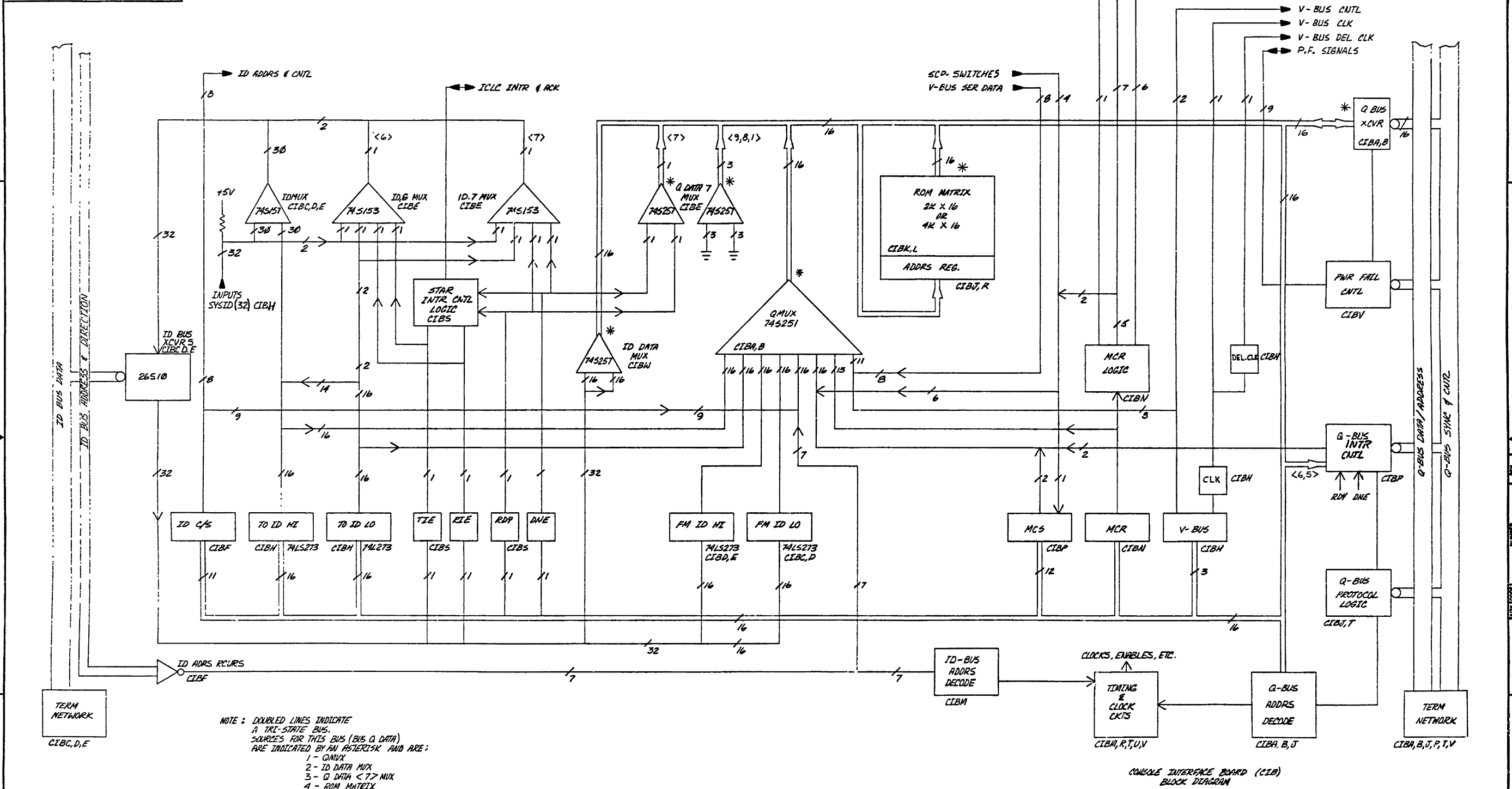
! D ! I ! G ! I ! T ! A ! L !	TITLE	SECTION A OF A	! SIZE !	! CODE !	DOCUMENT NUMBER	! REV !
! ! ! ! ! ! ! !	CONSOLE INTERFACE BOARD	! ! ! ! ! ! ! !	! K !	! PL !	M8236-0-DBP	! D !

LINE ITEM		DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
71	71		23239F1-00	F1-01	1	E73
72	72		1912746-00	DEC 74S37 NAND GATE-QUAD 2IN	1	E66
73	73		1300479-00	10 K 1/4W 5% CC	1	R171
74	74		9105740-55	*** THIS ITEM IS NOT USED ***	-	

0 NOTE: REF DESIG. FOR ITEM 50 ARE E8,E92A,E92B

D I G I T A L							TITLE	CONSOLE INTERFACE BOARD			SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
												K	FL	M8236-0-DBP	D

"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION"



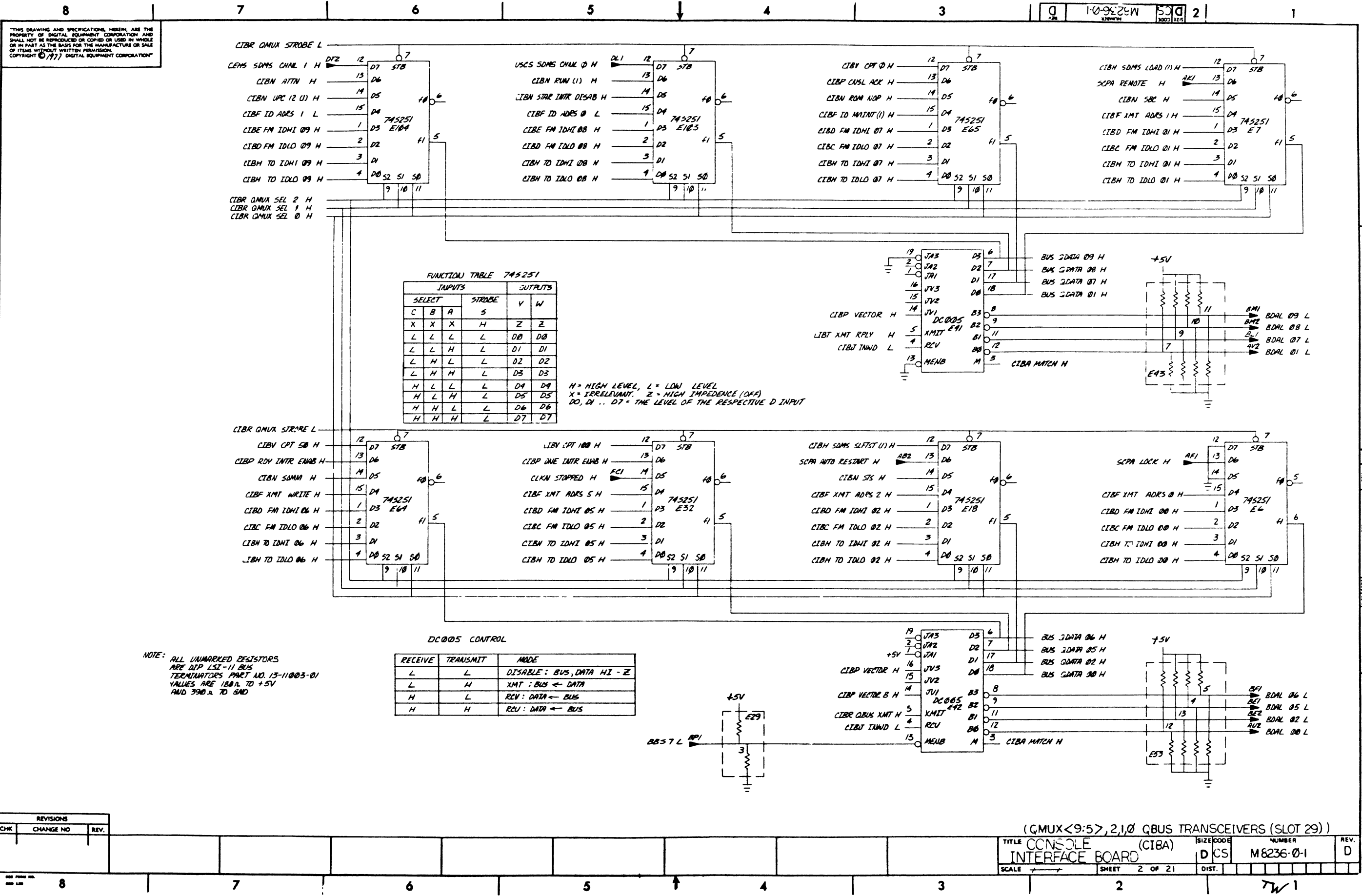
NOTE: DOUBLED LINES INDICATE A TRI-STATE BUS.
SOURCES FOR THIS BUS (BUS Q DATA) ARE INDICATED BY AN ASTERISK AND ARE:
1 - QMUX
2 - ID DATA MUX
3 - Q DATA <7> MUX
4 - ROM MATRIX
5 - Q-BUS TRANSCEIVERS

REV	CHG	DATE	BY	CHK
1		5/1/77	K. DUGAN	
2		5/1/77	K. DUGAN	
3		5/1/77	K. DUGAN	
4		5/1/77	K. DUGAN	
5		5/1/77	K. DUGAN	
6		5/1/77	K. DUGAN	
7		5/1/77	K. DUGAN	
8		5/1/77	K. DUGAN	

(BLOCK DIAGRAM)

DRN. 8-THREE	5/1/77	FIRST USED ON	
CHK. 8-THREE	7/1/77	TITLE	CONSOLE INTERFACE BOARD
ENG. 8-THREE	7/1/77	PROD. 8-THREE	7/1/77
PROJ. ENG. 8-THREE	7/1/77	NEXT HIGHER ASSY.	
SCALE	1 OF 21	SIZE	D CS
SHEET	1 OF 21	DIST.	

REV. D



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

FUNCTION TABLE 745251

INPUTS			OUTPUTS		
SELECT	STROBE	S	V	W	
C	B	A	S	Z	Z
X	X	X	H	D0	D0
L	L	L	L	D1	D1
L	L	H	L	D2	D2
L	H	L	L	D3	D3
L	H	H	L	D4	D4
H	L	L	L	D5	D5
H	L	H	L	D6	D6
H	H	L	L	D7	D7
H	H	H	L	D7	D7

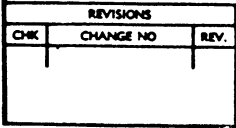
H = HIGH LEVEL, L = LOW LEVEL
X = IRRELEVANT, Z = HIGH IMPEDANCE (OFF)
D0, D1 ... D7 = THE LEVEL OF THE RESPECTIVE D INPUT

DC005 CONTROL

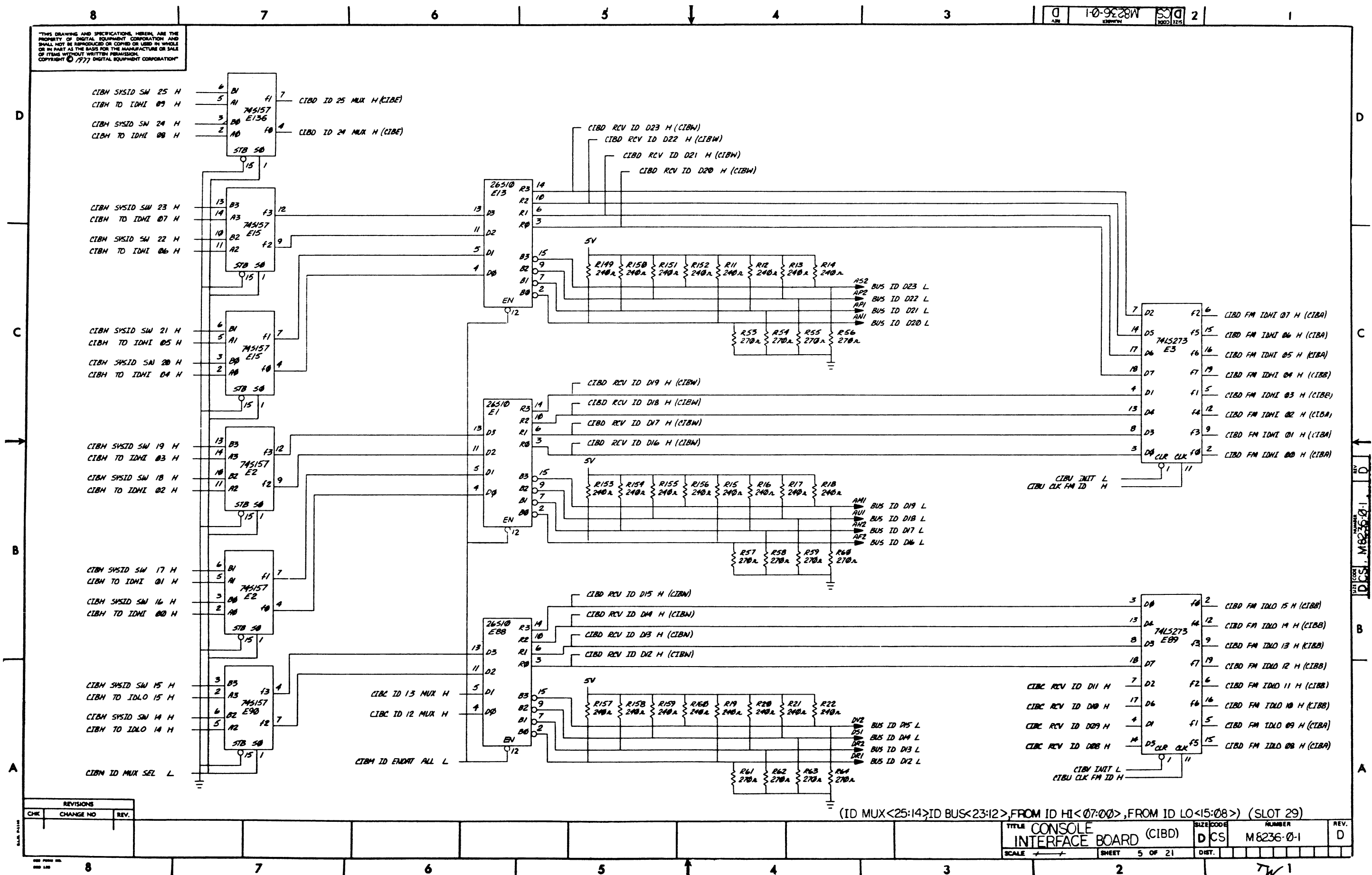
RECEIVE	TRANSMIT	MODE
L	L	DISABLE: BUS, DATA HI - Z
L	H	XMT: BUS ← DATA
H	L	RCV: DATA ← BUS
H	H	RCV: DATA ← BUS

NOTE: ALL UNMARKED RESISTORS ARE DIP LSI-11 BUS TERMINATORS PART NO. 13-11003-01 VALUES ARE 180Ω TO +5V AND 390Ω TO GND

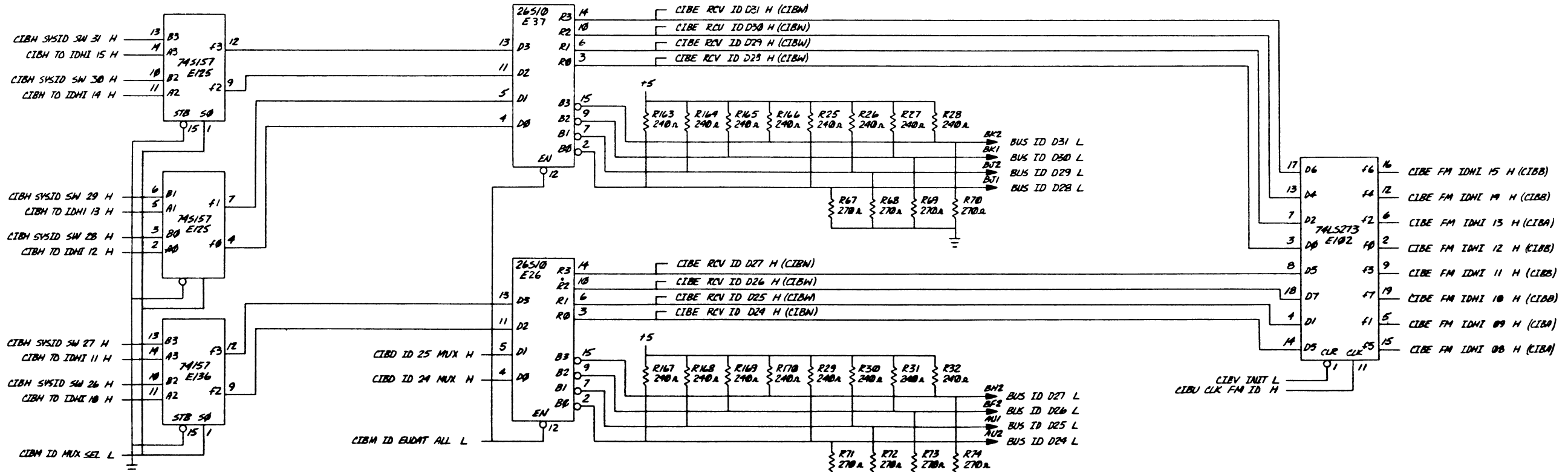
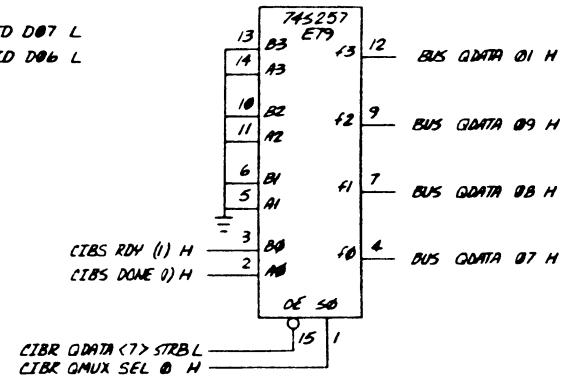
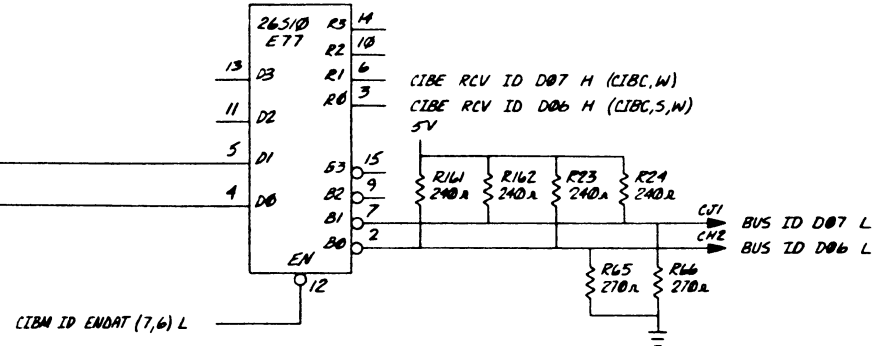
(GMUX<9:5>,2,1,0 QBUS TRANSCEIVERS (SLOT 29))



TITLE		CONSOLE (CIBC)		SIZE CODE		NUMBER		REV.	
INTERFACE BOARD				D CS		M8236-0-1		D	
SCALE		SHEET 4 OF 21		DWT.					



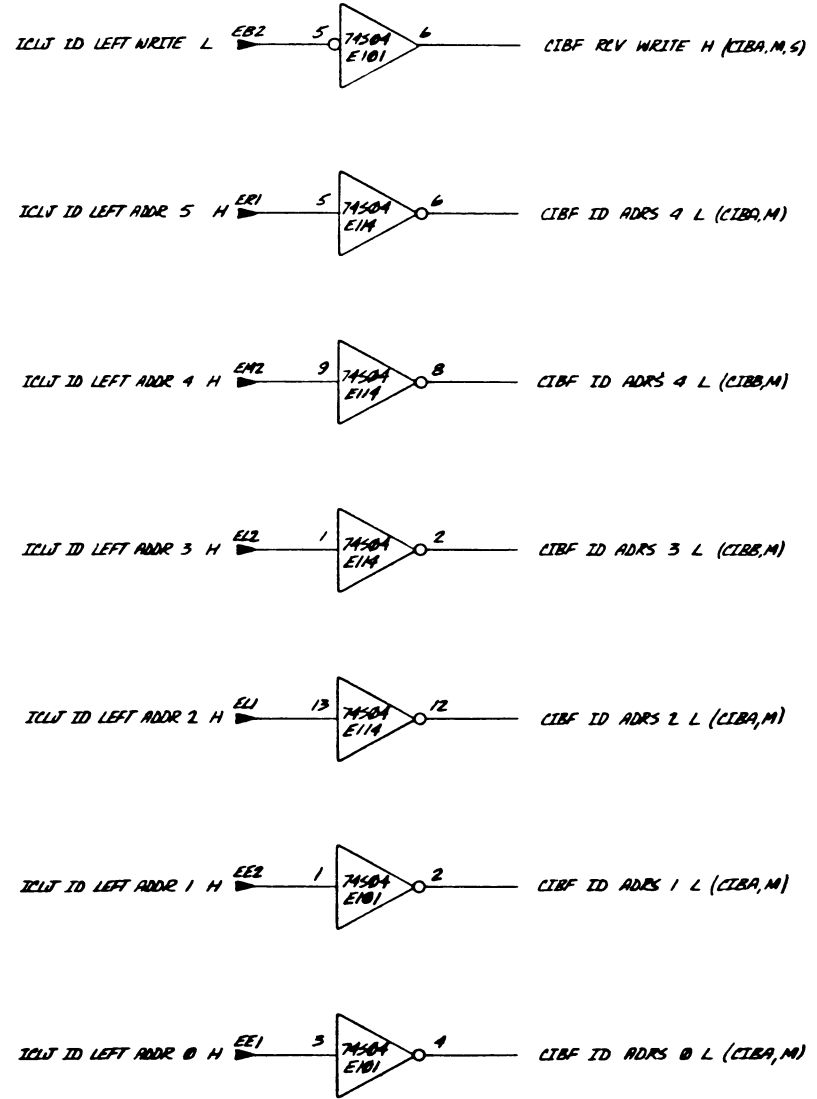
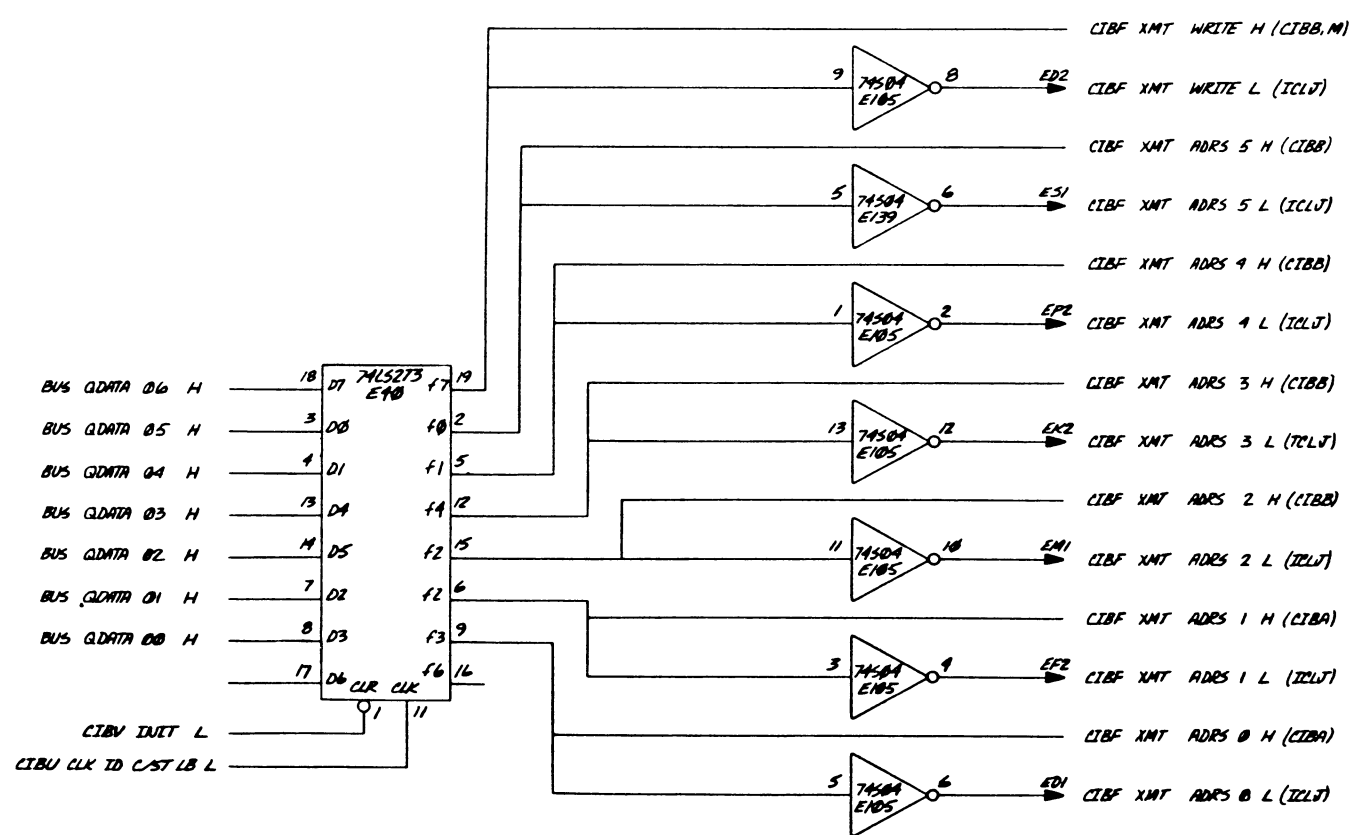
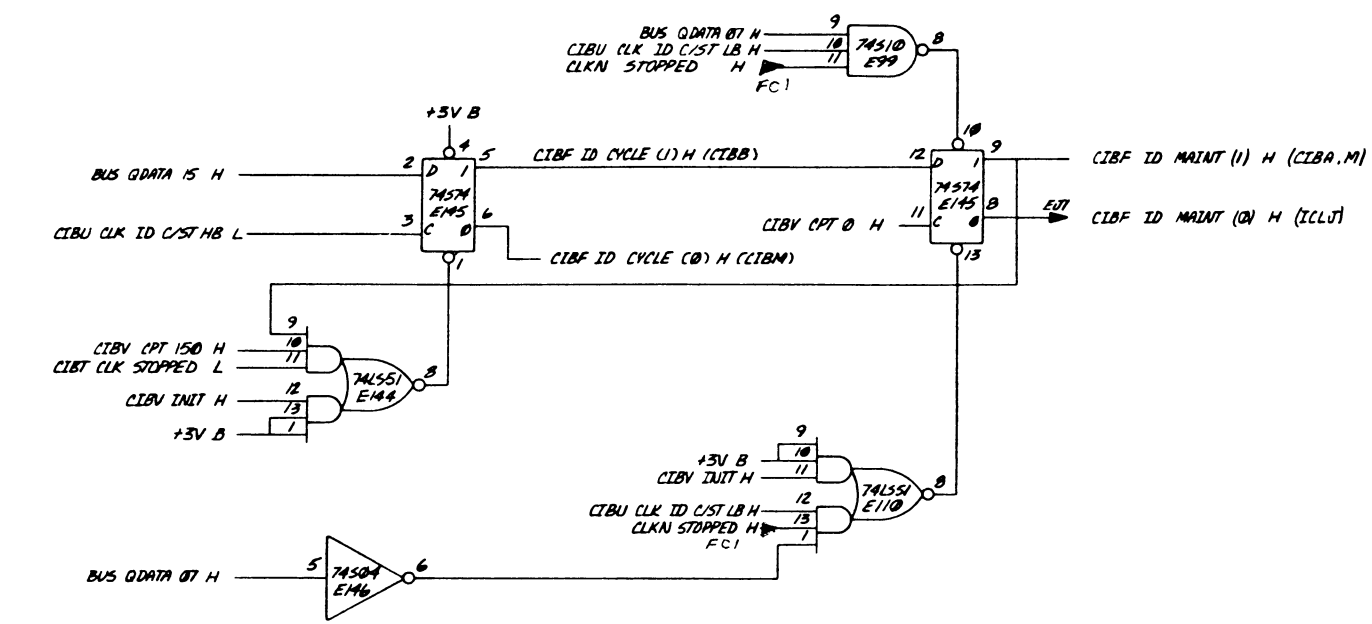
SELECT INPUTS A AND B ARE COMMON TO BOTH SECTIONS.
H = HIGH LEVEL L = LOW LEVEL
X = IRRELEVANT



(ID <7:6>MUX, ID MUX <31:26>, ID BUS <31:24>, 7, 6 FROM ID HI <15:08>, QDATA <7>MUX (SLOT 29))

REVISIONS		
CHK	CHANGE NO.	REV.

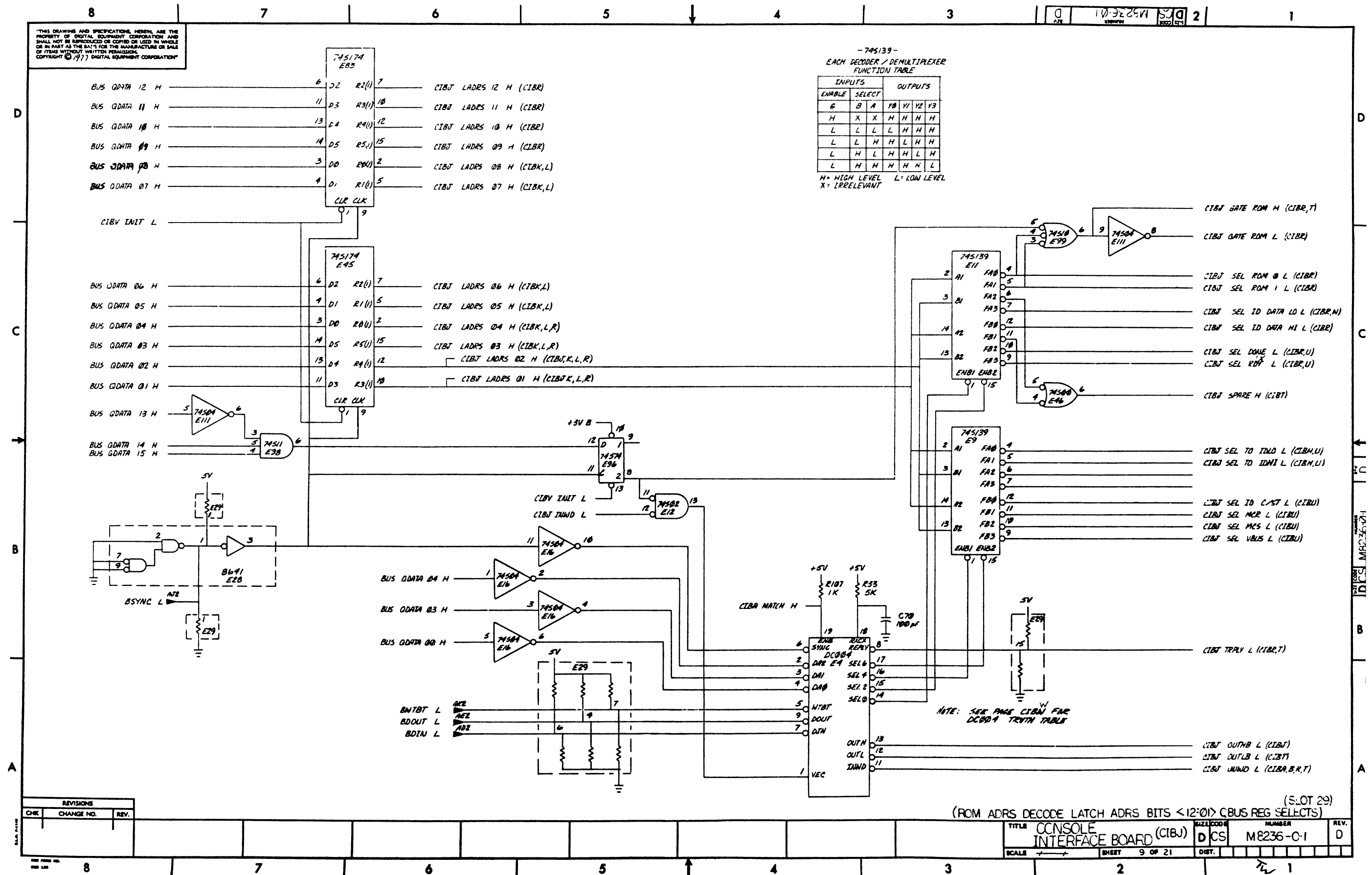
"THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

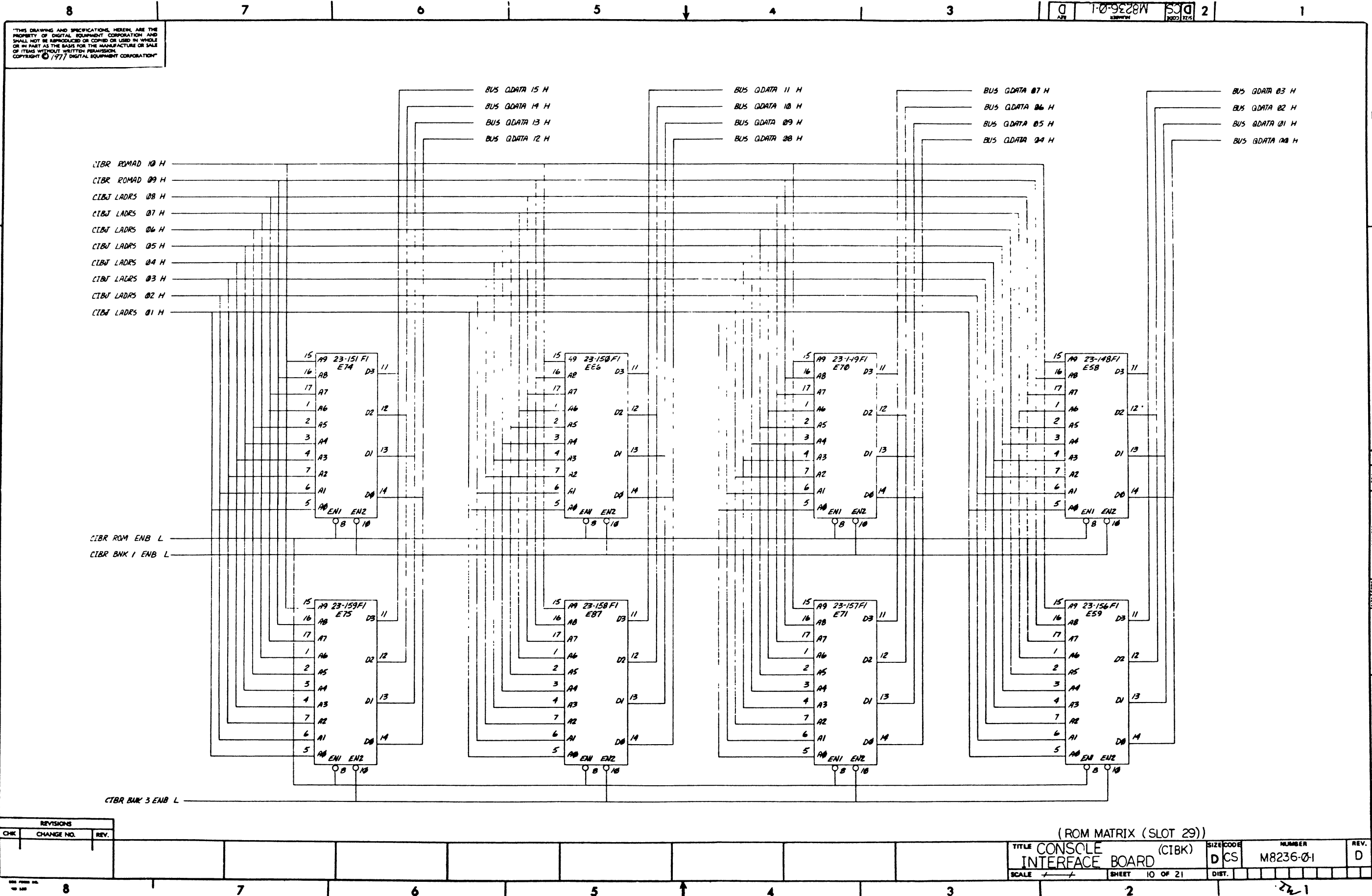


REVISIONS		
CHK	CHANGE NO	REV.

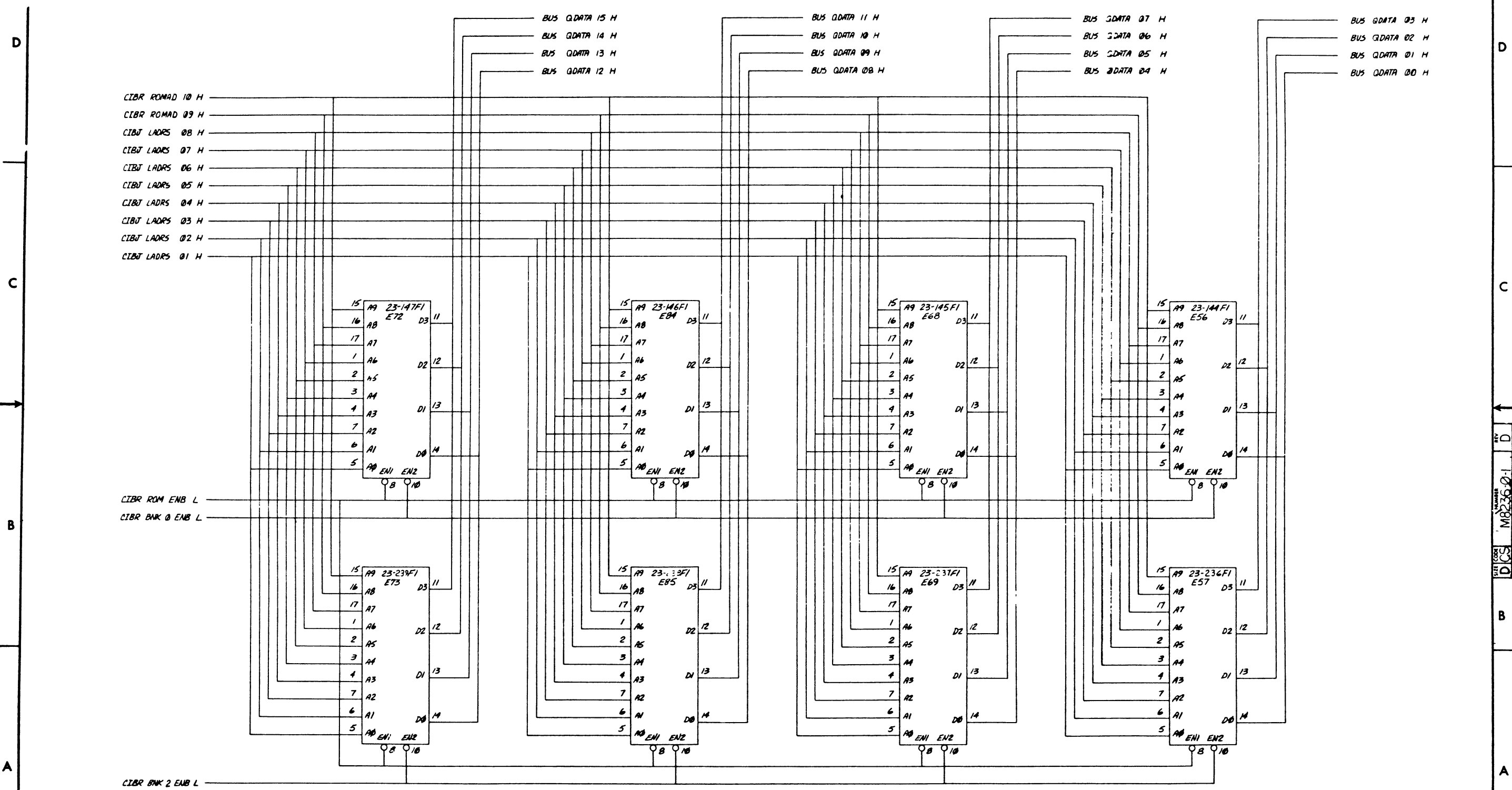
(SLOT 29)		(ID CONTROL/STATUS REG ID ADRES/CONTROL RECEIVERS)	
TITLE		CONSOLE (CIBF)	
INTERFACE BOARD		D CS M8236-01	
SCALE		SHEET 7 OF 21	

8	7	6	5	4	3	2	1
---	---	---	---	---	---	---	---





THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



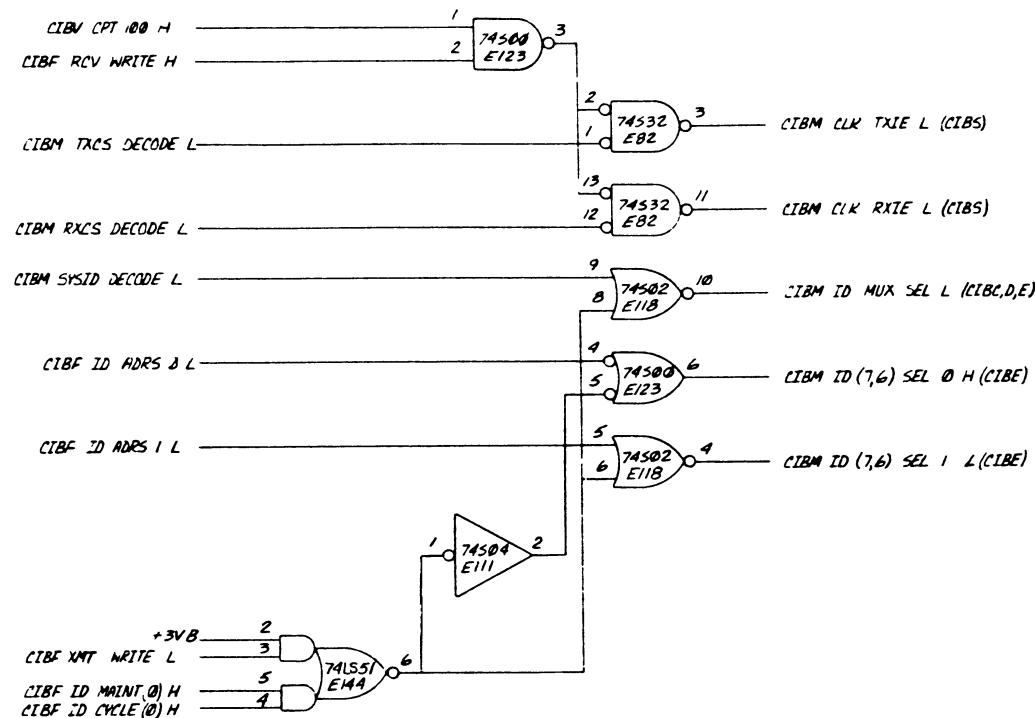
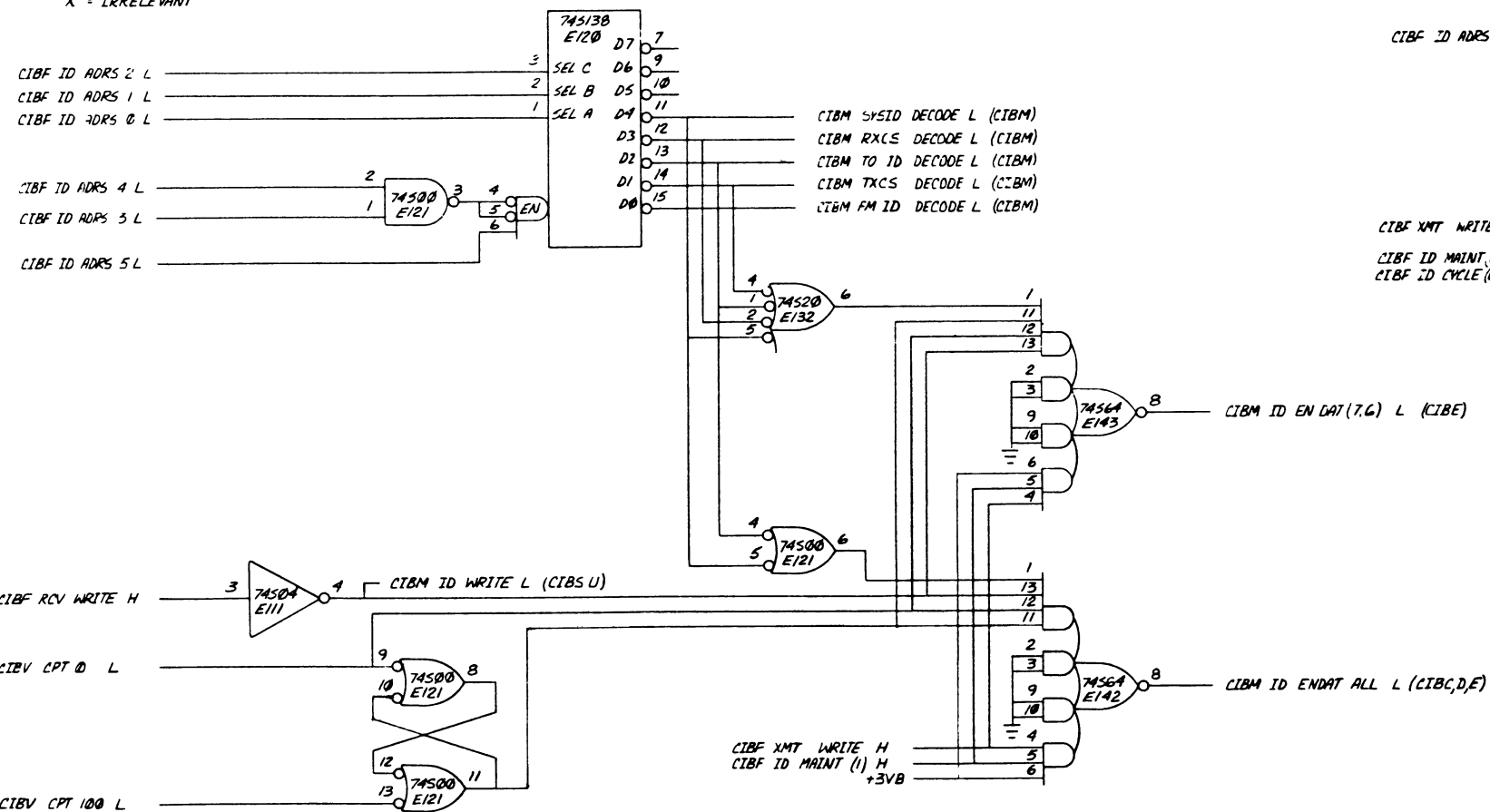
REVISIONS		
CHK	CHANGE NO	REV.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

-745138-
FUNCTION TABLE

INPUTS		OUTPUTS									
ENABLE	SELECT										
G1	G2	C	B	A	Y0	Y1	Y2	Y3	Y4	Y5	Y6
X	H	X	X	X	H	H	H	H	H	H	H
L	X	X	X	X	H	H	H	H	H	H	H
H	L	L	L	L	L	H	H	H	H	H	H
H	L	L	L	H	H	L	H	H	H	H	H
H	L	L	H	L	H	L	H	H	H	H	H
H	L	L	H	H	H	L	H	H	H	H	H
H	L	H	L	L	H	H	H	L	H	H	H
H	L	H	L	H	H	H	H	L	H	H	H
H	L	H	H	L	H	H	H	H	L	H	H
H	L	H	H	H	H	H	H	H	H	L	H

*G2 = G2A + G2B
H = HIGH LEVEL
L = LOW LEVEL
X = IRRELEVANT

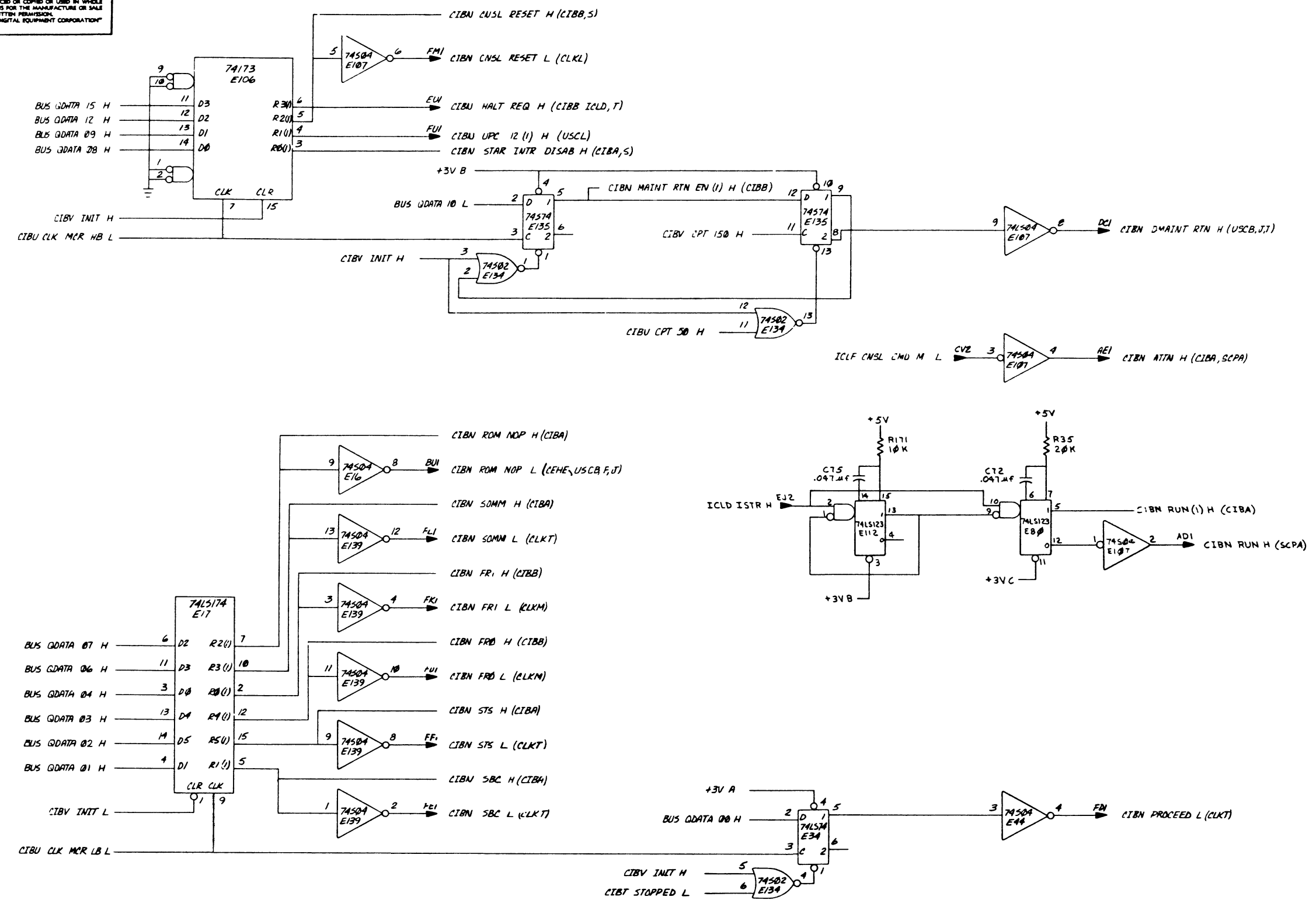


ADRS	NAME	ID (7,6) SEL 1 L	ID (7,6) SEL 0 H	ID MUX SEL L
03	SYSID	H	H	H
04	RXCS	L	L	L
05	TO ID	L	H	L
06	TXCS	H	L	L
07	FM ID	X	X	L

(SLOT 29)
(ID BUS DATA ENABLES, ID REG ADRS DECODE, ID MUX SELECT, CLOCKS)

TITLE	SIZE	CODE	NUMBER	REV
CONSOLE INTERFACE BOARD (CIBM)	D	CS	M8236-0-1	D
SCALE	SHEET	DIST		
1:1	12 OF 21			

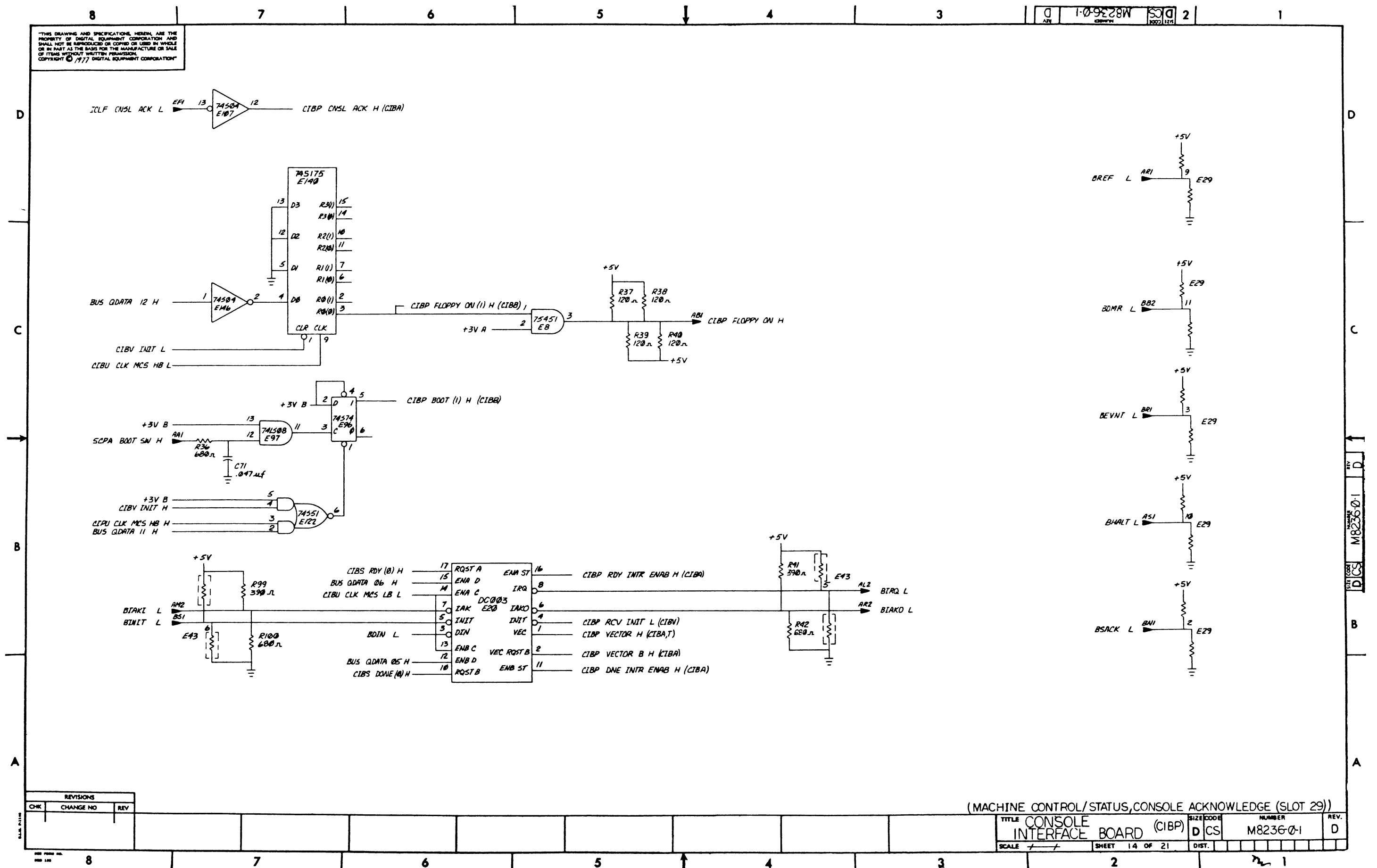
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"



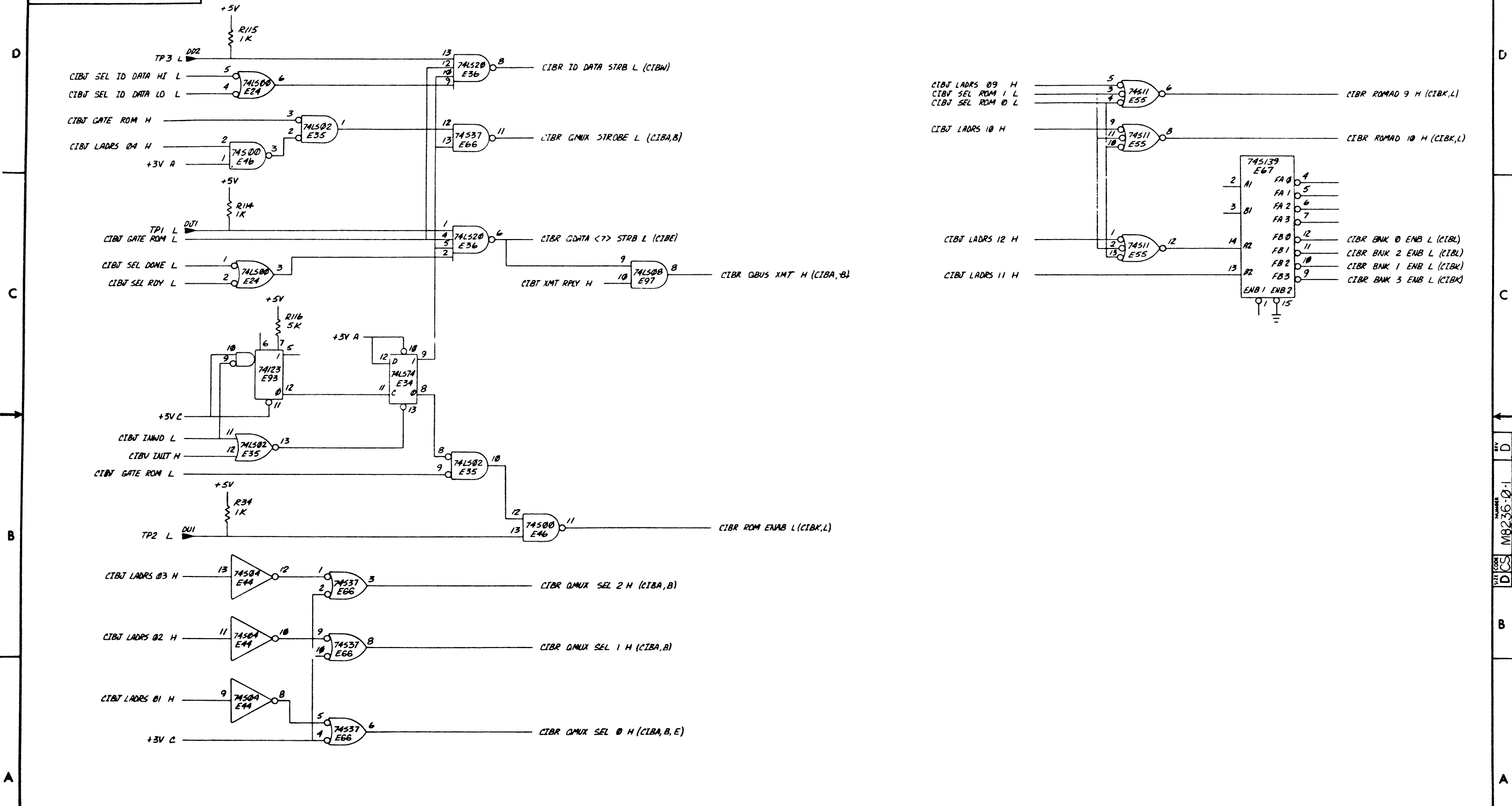
REVISIONS		
CHK	CHANGE NO	REV

(MACHINE CONTROL REG; RUN AND ATTENTION INDICATORS (SLOT 29))

TITLE	CONSOLE INTERFACE BOARD (CIBN)	SIZE CODE	D	NUMBER	M8236-0-1	REV.	D
SCALE	+	SHEET	13 OF 21	DIST.			



"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"

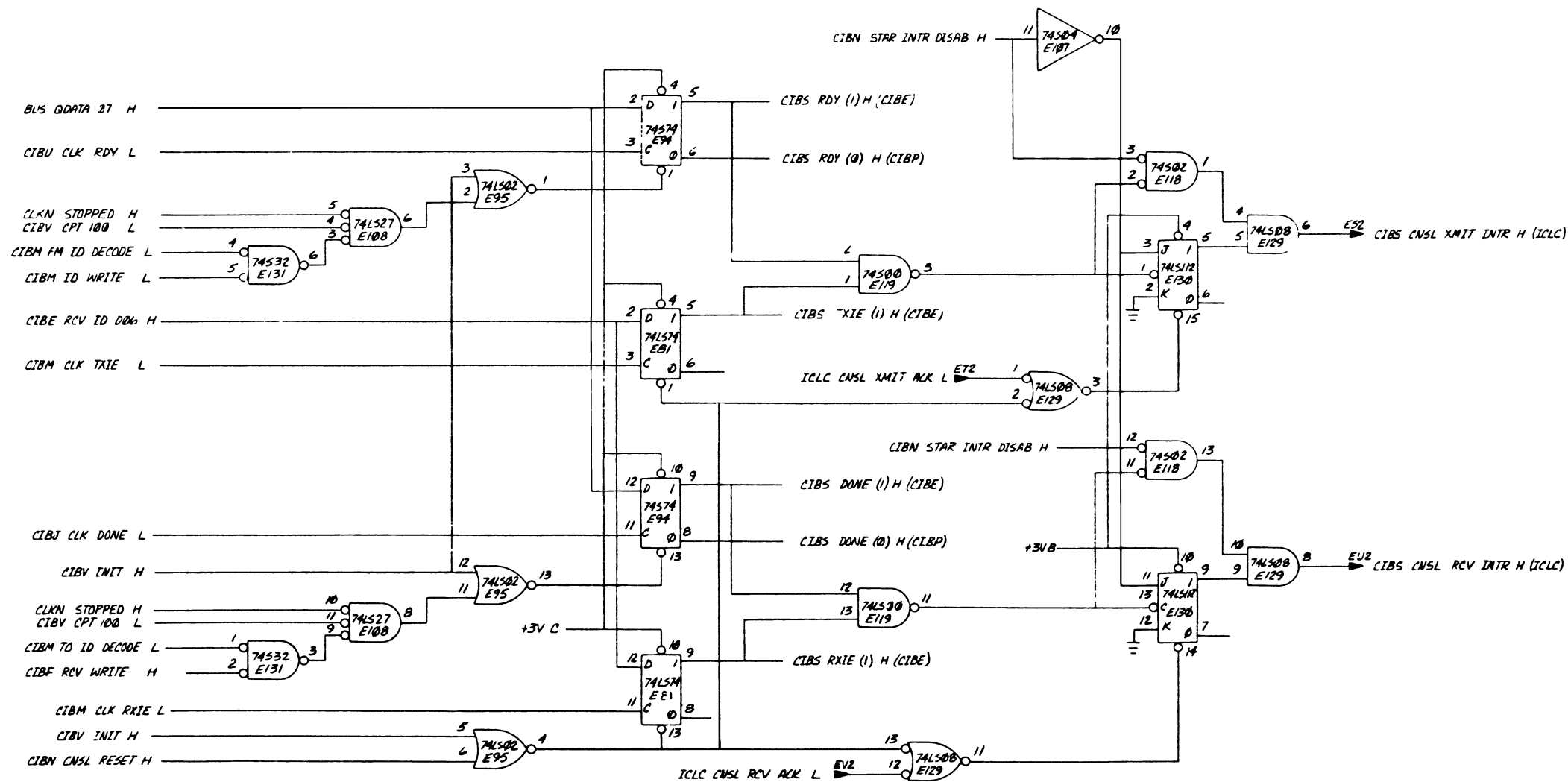


(QMUX SELECTS ROM BANK DECODE, ENABLE ID DATA, QMUX STROBES QBUS XMT (SLOT 29))

REVISIONS		
CHK	CHANGE NO.	REV

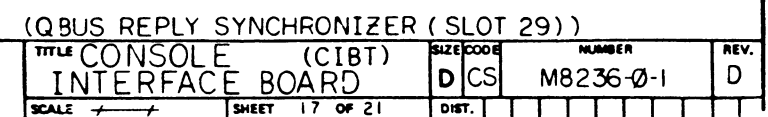
TITLE	CONSOLE INTERFACE BOARD (CIBR)	SIZE CODE	D CS	NUMBER	M8236-01	REV.	D
SCALE	1:1	SHEET	15 OF 21	DET.			

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



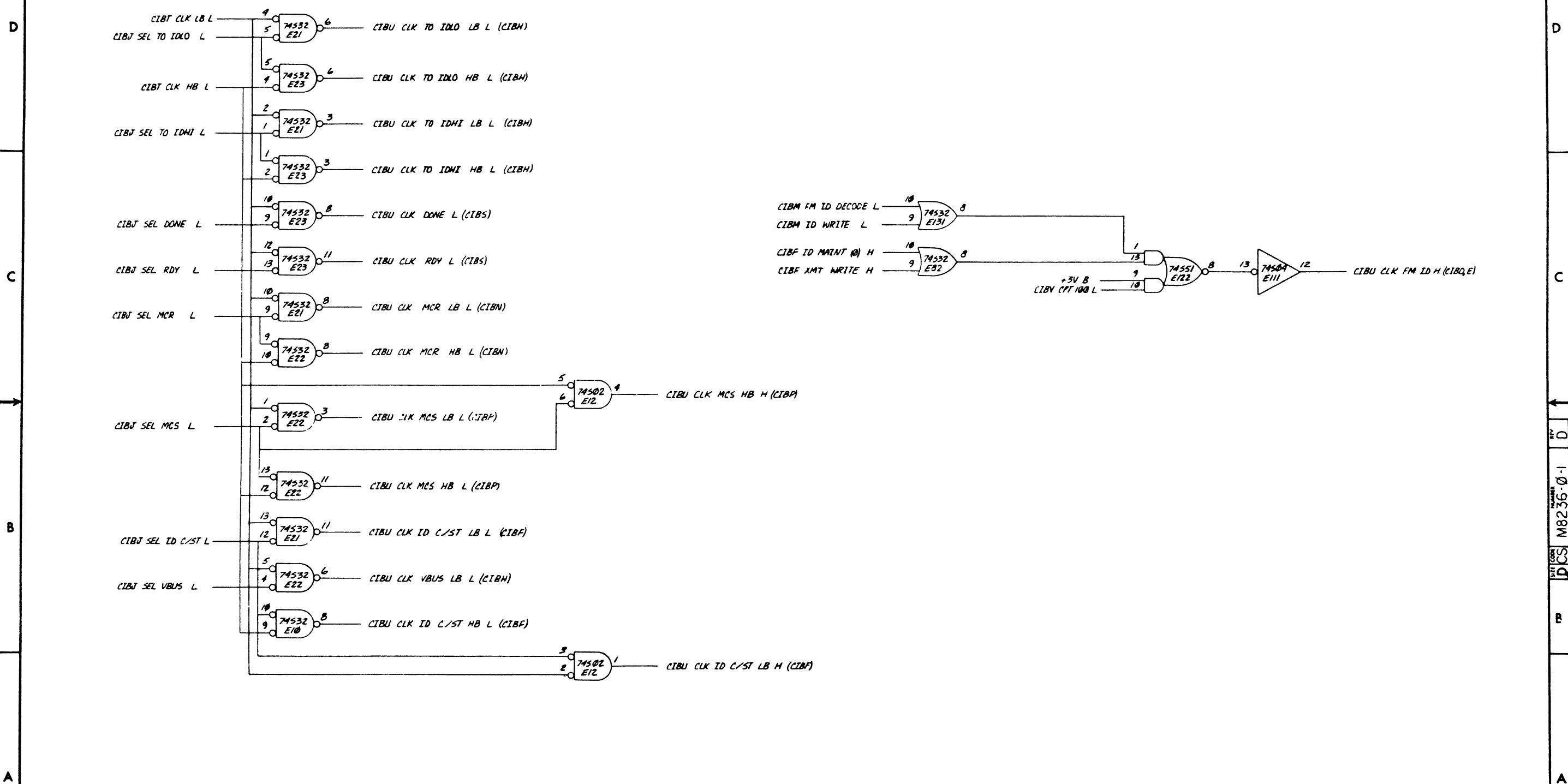
(READY, DONE, TRANSMIT AND RECEIVE INTERRUPT ENABLES (SLOT 29))

REVISIONS		
CHK	CHANGE NO	REV.

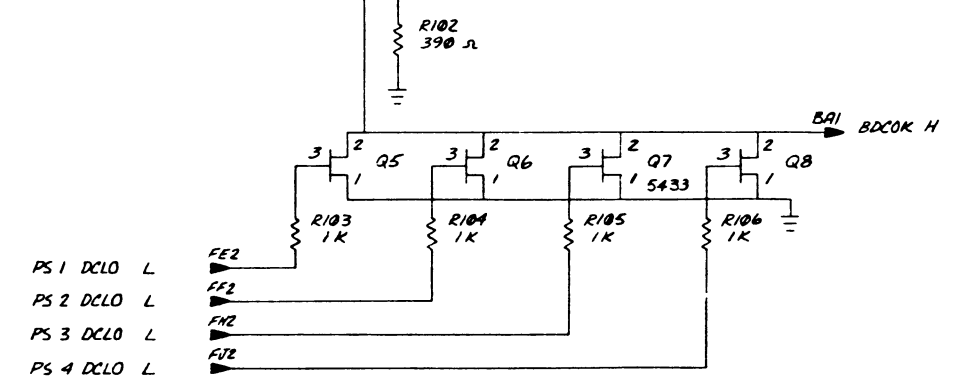
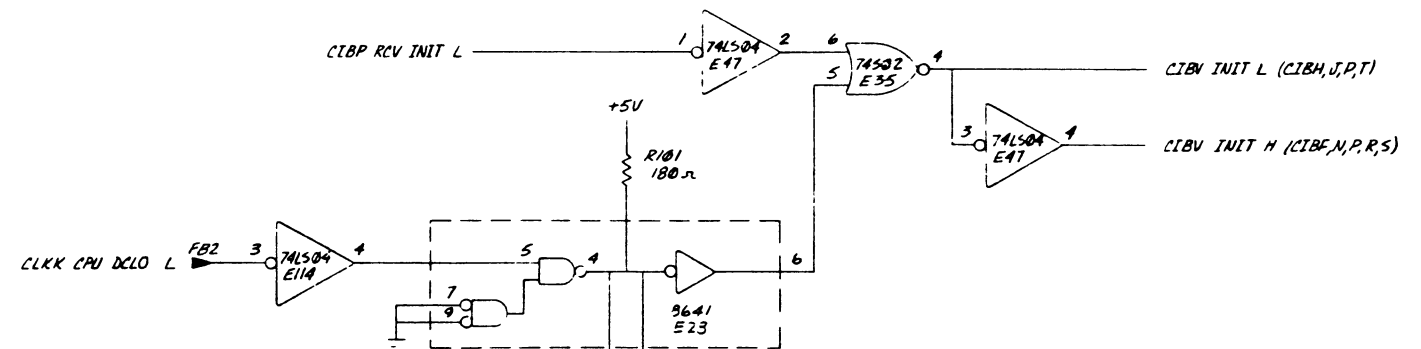
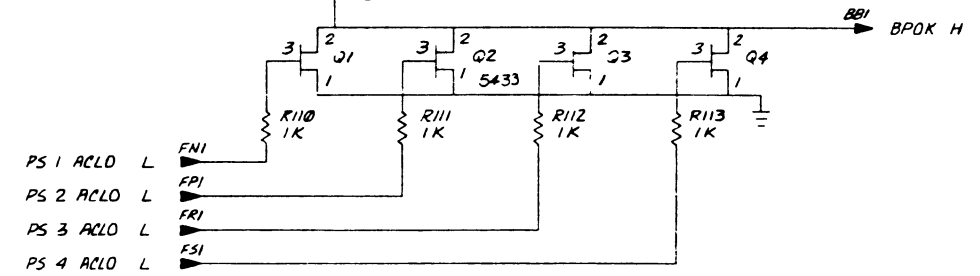
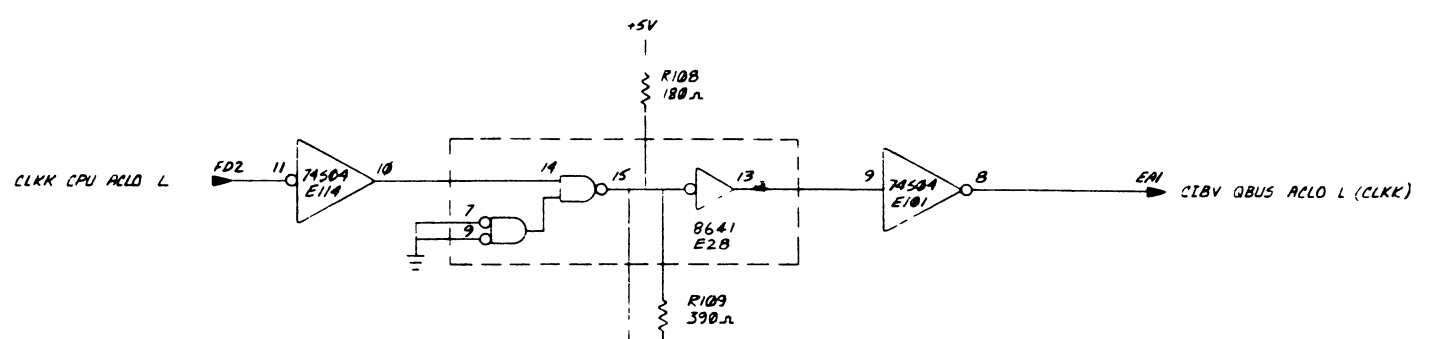
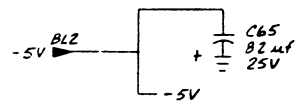
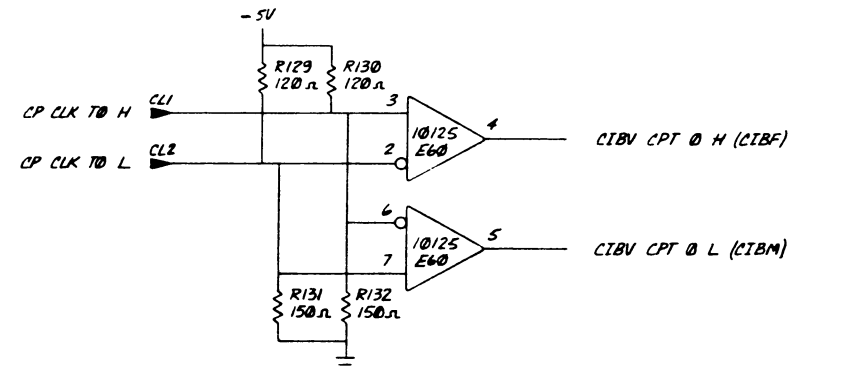
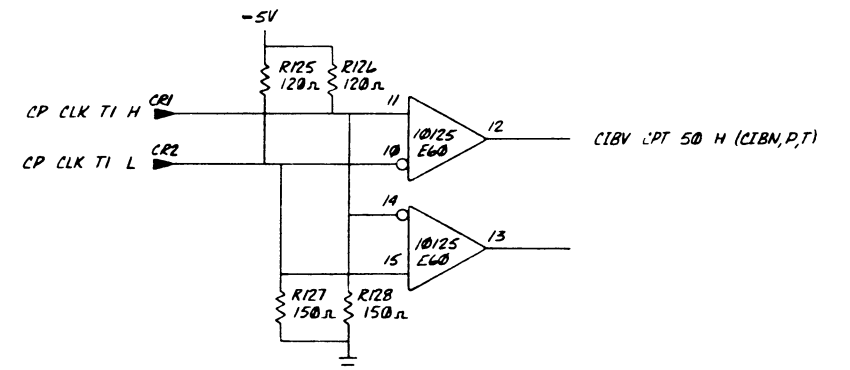
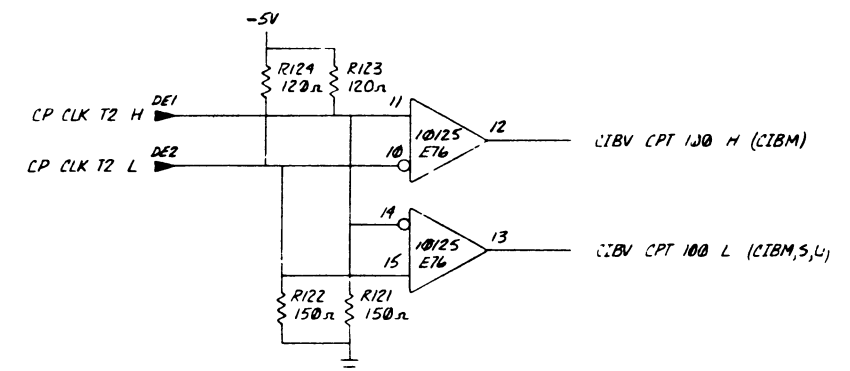
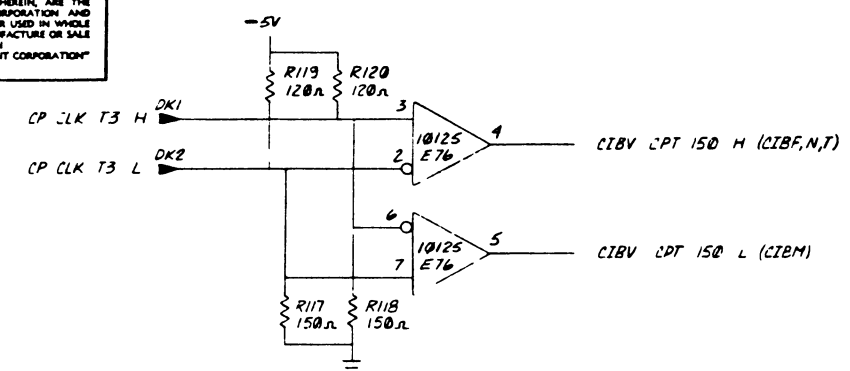


REVISIONS		
CHK	CHANGE NO.	REV.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



- PS 1 DCLO L
- PS 2 DCLO L
- PS 3 DCLO L
- PS 4 DCLO L

(ECL CLOCK RECEIVERS, DCLO AND ACLO (SLOT 29))

TITLE	CONSOLE (CIBV) INTERFACE BOARD	SIZE CODE	NUMBER	REV.
SCALE	+	SHEET	19 OF 21	D

REVISIONS		
CHK	CHANGE NO	REV

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

8

7

6

5

4

3

2

1

D
1-0-9628W
M8236-0-1
1000 1115

NOTE SEE CIBT

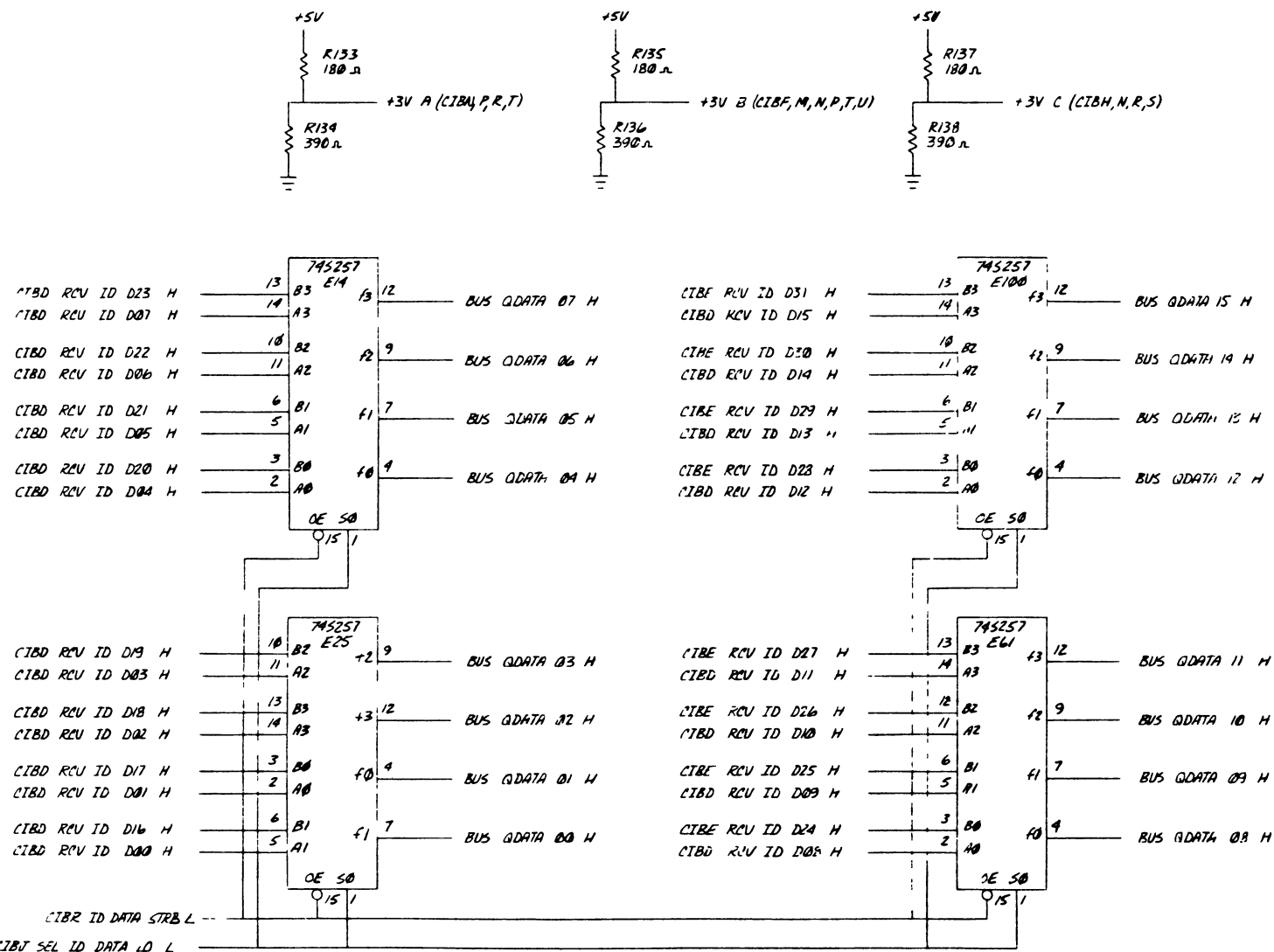
- 0004 -

TRUTH TABLE							
INPUTS				OUTPUTS			
BSYNC	ENB	BDAL 2	BDAL 1	SEL 6	SEL 4	SEL 2	SEL 0
H	X	X	X	H	H	H	H
L	L*	X	X	H	H	H	H
L	H*	L*	L*	L	H	H	H
L	H*	L*	H*	H	L	H	H
L	H*	H*	L*	H	H	L	H
L	H*	H*	H*	H	H	H	L

INPUTS				OUTPUTS				
BSYNC	ENB	BDOUT	BU*BT	BDALB	OUTLB	QUTHB	BRPLY	RXCX
H	X	X	X	X	H	H	H	L
L	X	H	X	X	H	H	H	L
L	L*	L	H	X	L	L	H	L
L	L*	L	L	H*	L	H	H	L
L	L*	L	L	L*	H	L	H	L
L	H*	L	H	X	L	L	L	H
L	H*	L	L	H*	L	H	L	H
L	H*	L	L	L*	H	L	L	H

INPUTS				OUTPUTS		INPUT		OUTPUTS	
BSYNC	ENB	BDIN	INWD	BRPLY	RXCX	VECTOR	BRPLY	RXCX	
H	X	X	H	H	L	H	L	L	H
L	X	H	H	H	L	L	H	L	
L	L*	L	L	H	L				
L	H*	L	L	L	H				

- NOTES:
- 1.) H'S AND L'S MARKED WITH * INDICATES THE STATE OF THE INPUT LINE AT THE FALLING EDGE OF BSYNC, ASSUMING THE PROPER SET-UP AND HOLD TIMES, OUTSIDE OF THIS INTERVAL, THE INPUT LEVEL ON THESE LINES IS X.
 - 2.) "X" IMPLIES A DON'T CARE CONDITION.
 - 3.) NOTE THAT "BRPLY" IS PRODUCED BY THREE MEANS. THE ACTUAL OUTPUT IS L IF ANY OF THE THREE TRUTH TABLES INDICATE L. THE OUTPUTS ARE H ONLY IF ALL THREE TRUTH TABLES INDICATE H. RXCX IS THE LOGICAL INVERSION OF BRPLY.



(ID DATA MUX (SLOT 29))

TITLE CONSOLE (CIBW)
INTERFACE BOARDSIZE CODE
D CSNUMBER
M8236-0-1REV.
D

SCALE 1:1 SHEET 20 OF 21

DIST.

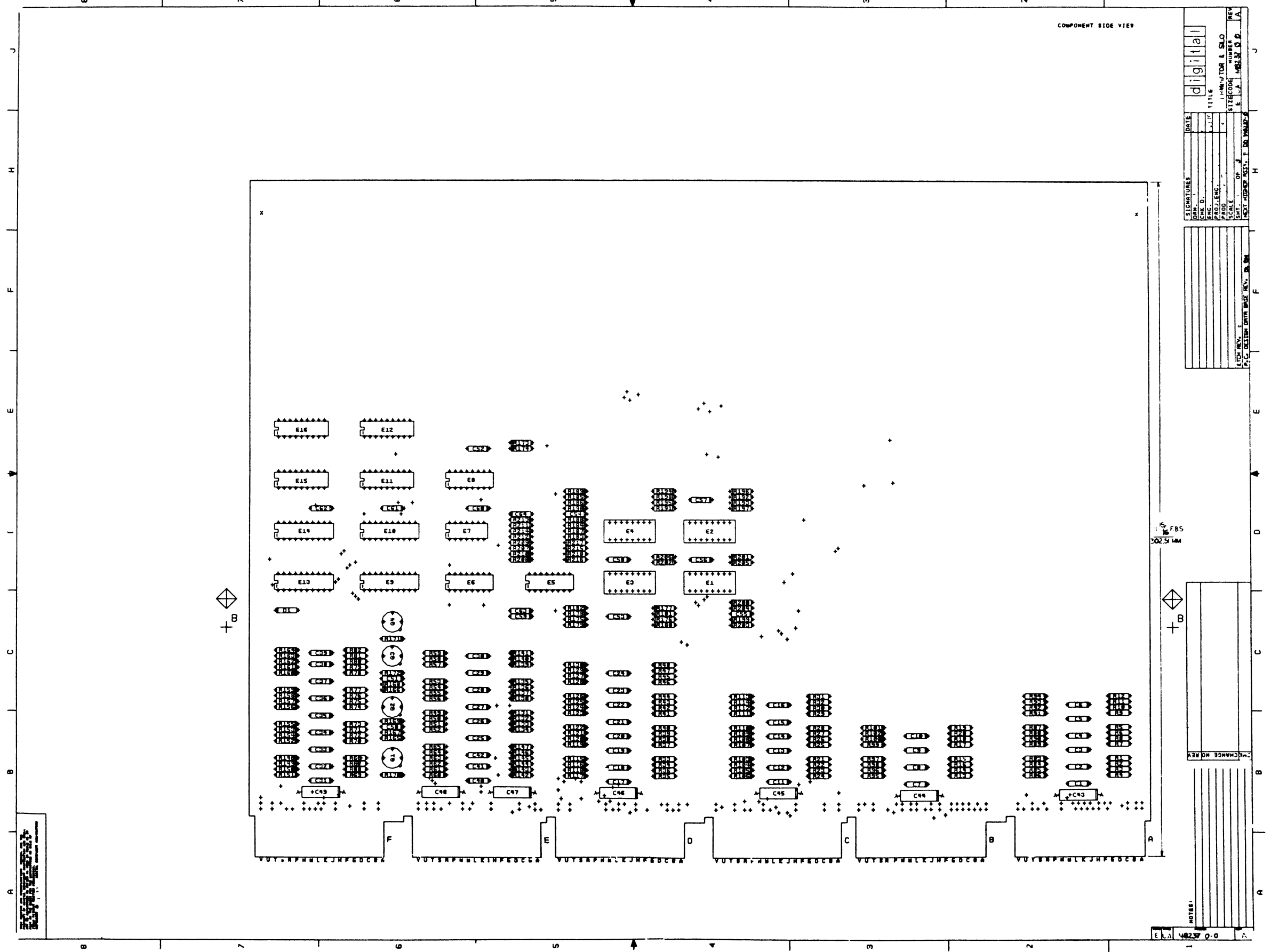
7/1

REV D

DATE CODE
DCS M8236-0-1

B

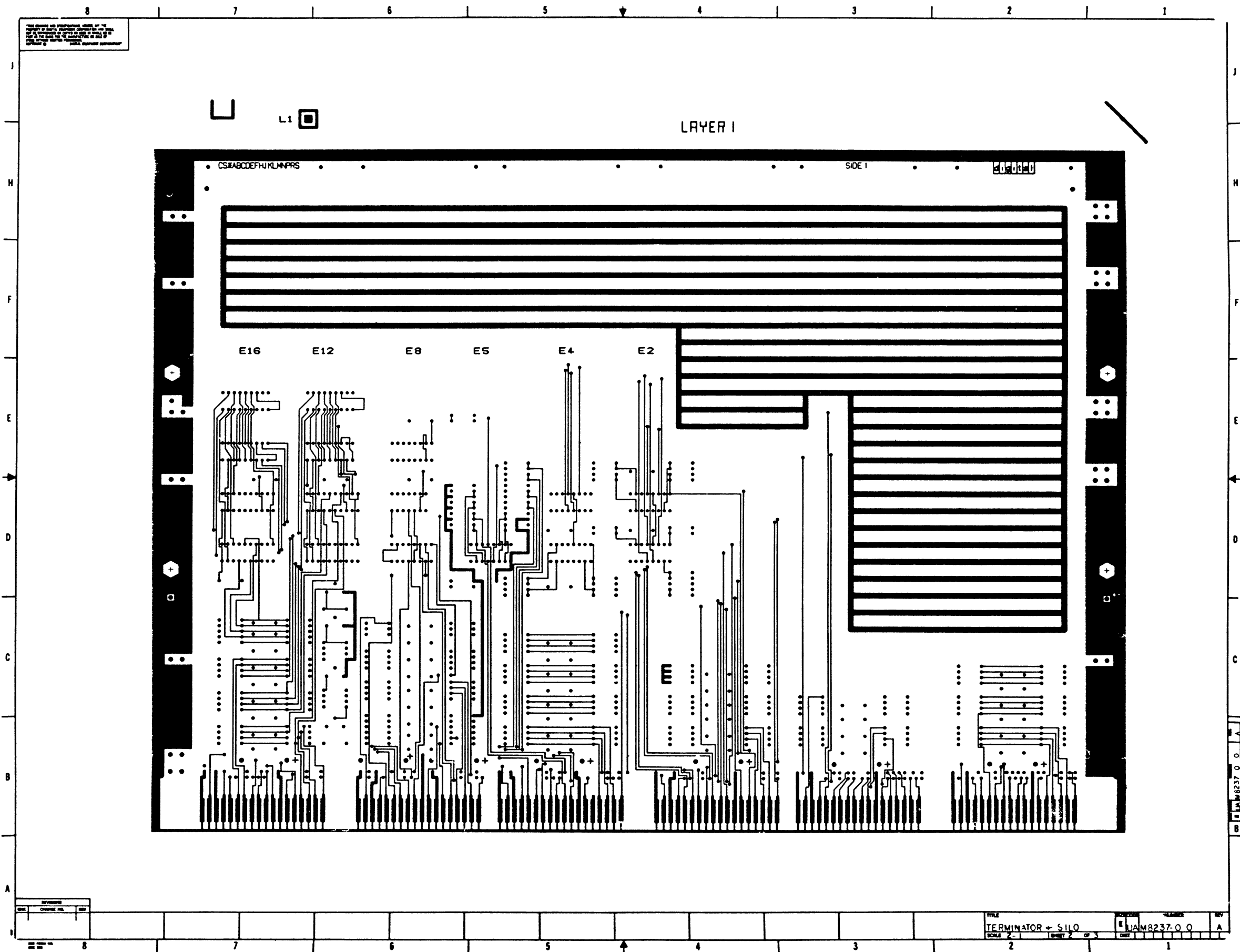
A

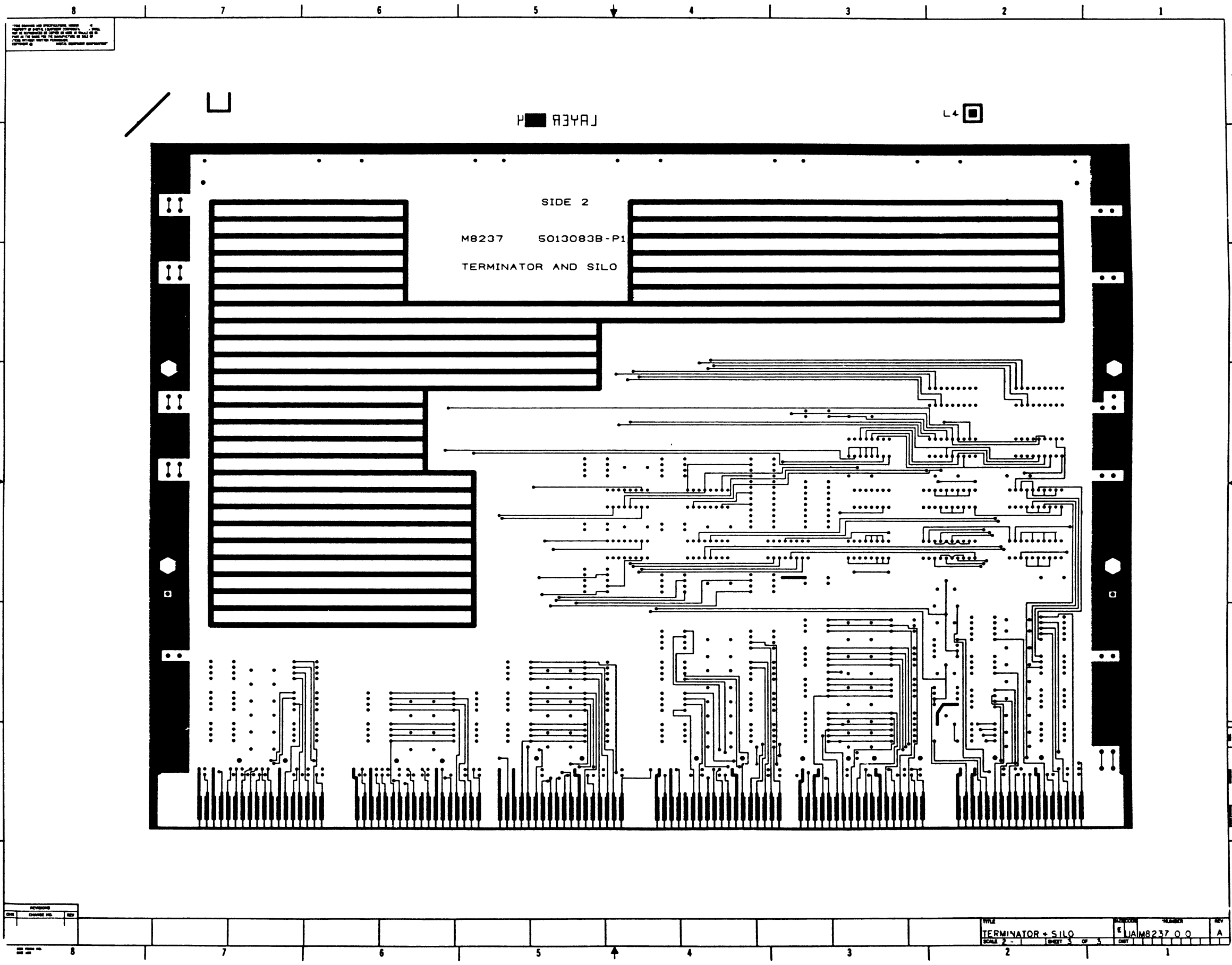


SIGNATURES		DATE	TITLE
DRW.	D.	1/17	digital
CHEK.	D.		
PROJ. ENG.			
SCALE			
SIGN.			
POST. DESIG.			
REV.			
1			
2			
3			
4			

CHANGE NO.	REV.
1	1
2	2
3	3
4	4

NOTES: 1. 40237 Q-0

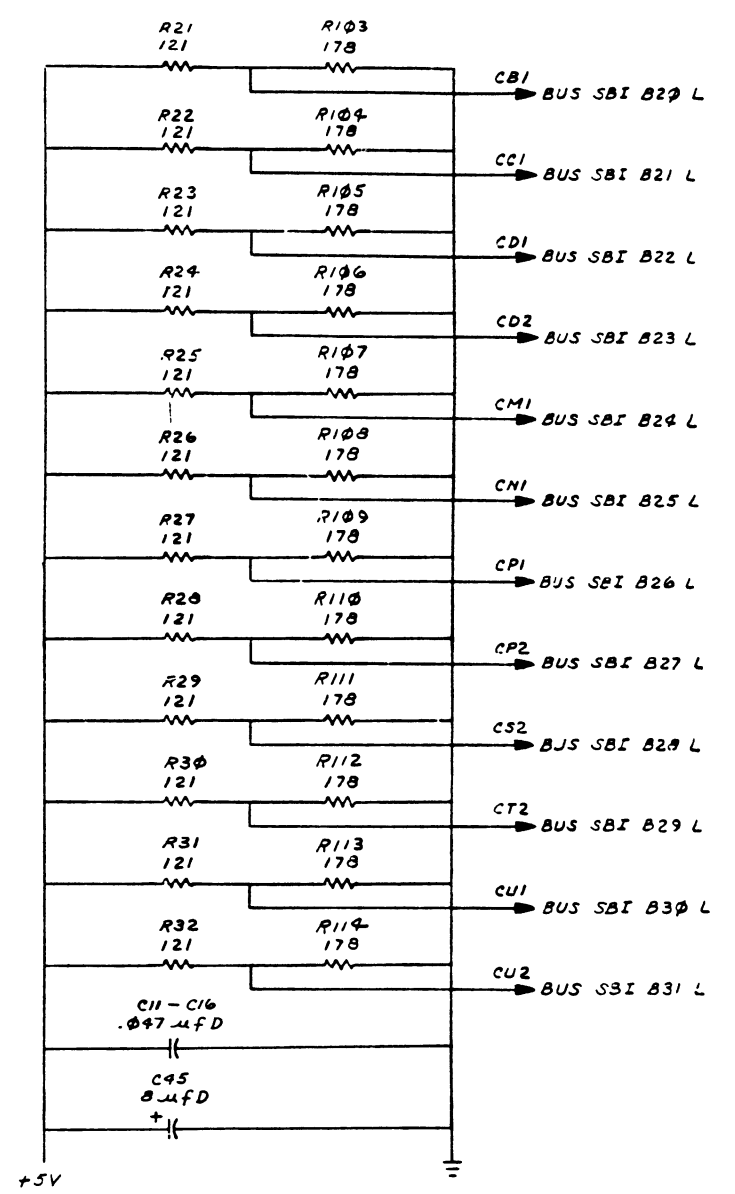
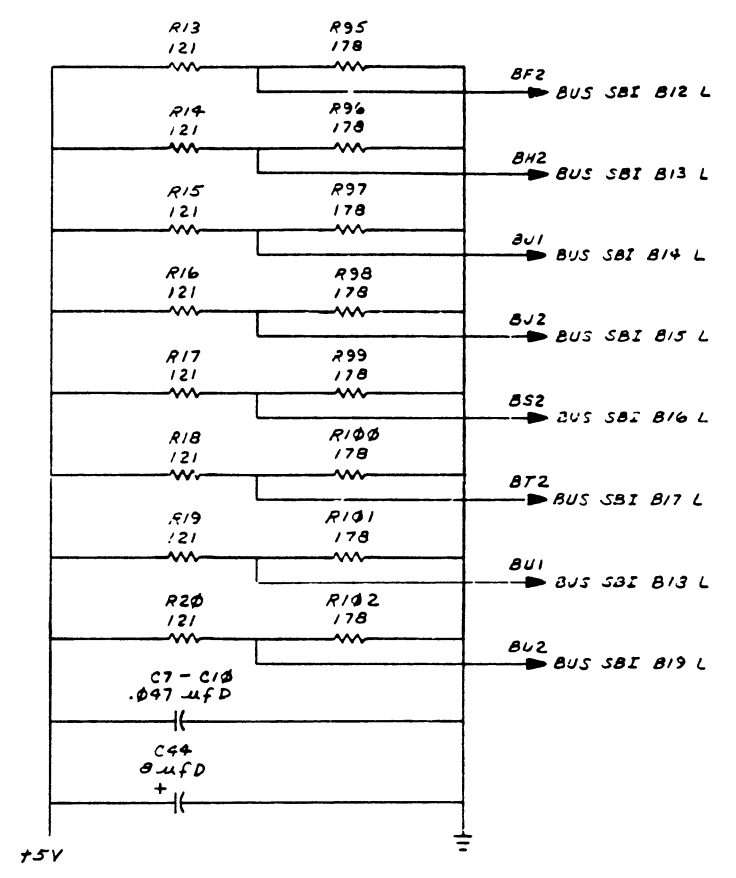
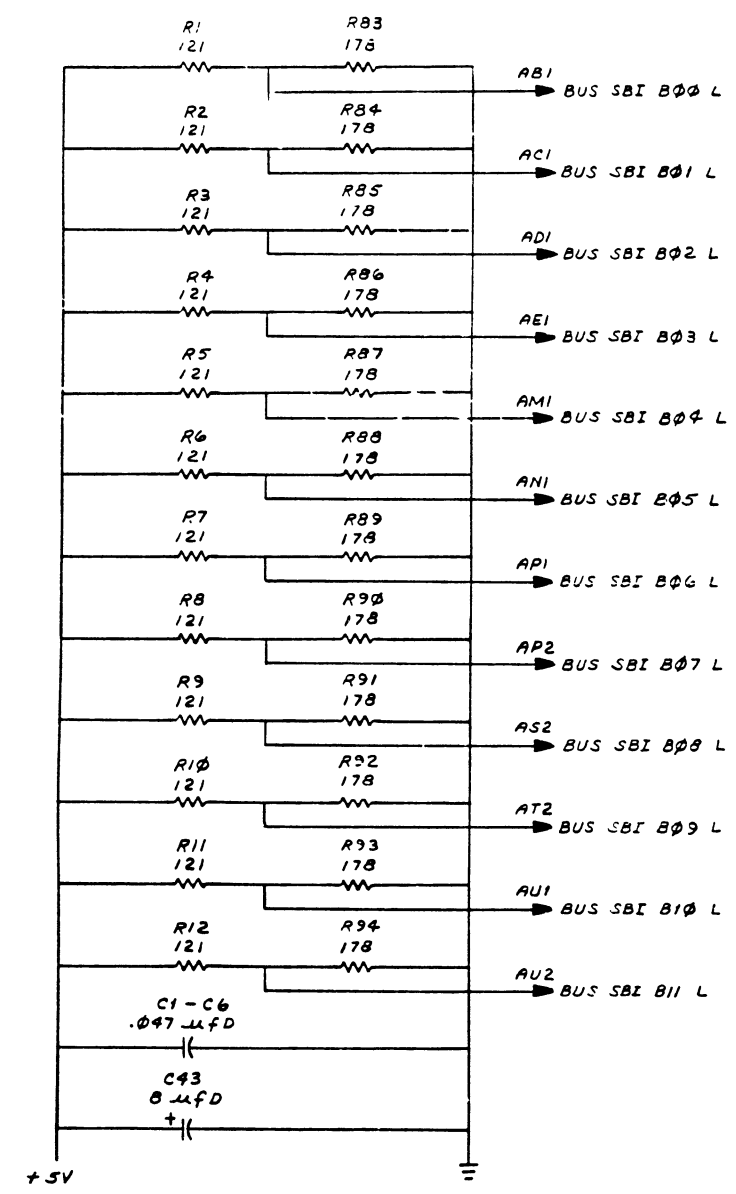




DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:			
MADE BY I. MALANSON DATE 5/24/77		CHECKED <i>Frank E Smart</i> DATE 8-11-77		SECTION															
ENG. <i>John E. Malanson</i> DATE 7-11-77		PROD <i>Mike Tisella</i> DATE 8-15-77		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION													REF DESIGNATION			
1	E-MD-5013083-0-0	5013083	ETCH BOARD	1															
2		1012784	CAPACITOR, .047UF, 50V CER	57												C1-C42, C50-C64			
3		1012084-01	CAPACITOR, 8UF, 25V	7												C43-C49			
4		1103041-00	DIODE, FD777	1												D1			
5		1311422	RESISTOR, 178, 1/4W, 1%	84												R83-R166			
6		1300365	RESISTOR, 1K, 1/4W, 5%	4												R169-R172			
7		1300295	RESISTOR, 330, 1/4W, 5%	1												R173			
8		1301424	RESISTOR, 680, 1/4W, 5%	1												R174			
9		1302957	RESISTOR, 121, 1/4W, 1%	106												R1-R82, R167, R168, R175-R178, R183-R186, R216 R191-R194 R199-R202, R207, R208, R211, R212, R215			
10		1301972	RESISTOR, 270, 1/4W, 5%	16												R179-R182, R187-R190, R195-R198, R203-R206			
11		1300250	RESISTOR, 150, 1/4W, 5%	6												R209, R210, R213, R214, R217, R218			
12		1511686	TRANSISTOR, DEC 5433 FET	4												Q1, Q2, Q3, Q4			
13		1913294	IC DEC 93S16	1												E8			
14		1912731	IC DEC 8646	4												E13, E14, E9, E10			
15		1912586	IC DEC 85S68	4												E15, E16, E11, E12			
16		1913788	IC DEC 26S10	4												E1, E2, E3, E4			
17		1910956	IC DEC 74S151	1												E6			
18		1910539	IC DEC 74S20	1												E7			
19		1911415	IC DEC 10125	1												E5			
E.C.O. NO. 10001																			
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION"				TITLE TERMINATOR AND SILO				ASSY NO.				SIZE	CODE	NUMBER	REV.				
								SHEET 1 OF 2				B	PL	M8237-0-0	A				
INSERTION PARTS LIST DATA BASE REV																			

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES:			
MADE BY F. MALANSON DATE 5/24/77		CHECKED <i>David E Smart</i> DATE 8-11-77		SECTION															
ENG <i>Tom Simon</i> DATE 8-11-77		PROD <i>Mike Penlla</i> DATE 8-16-77		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION														REF DESIGNATION		
20		1210711-02	HEX HANDLE ASSEMBLY	1															
21		9000024-01	EYELET	12															
E.C.O. NO.																			
"THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT ©1977 DIGITAL EQUIPMENT CORPORATION"			TITLE TERMINATOR AND SILO		ASSY NO.		SIZE B	CODE PL	NUMBER M8237-0-0		REV. A								
					SHEET 2 OF 2		INSERTION PARTS LIST DATA BASE REV												

"THIS DRAWING AND SPECIFICATIONS HEREON ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977, DIGITAL EQUIPMENT CORPORATION"



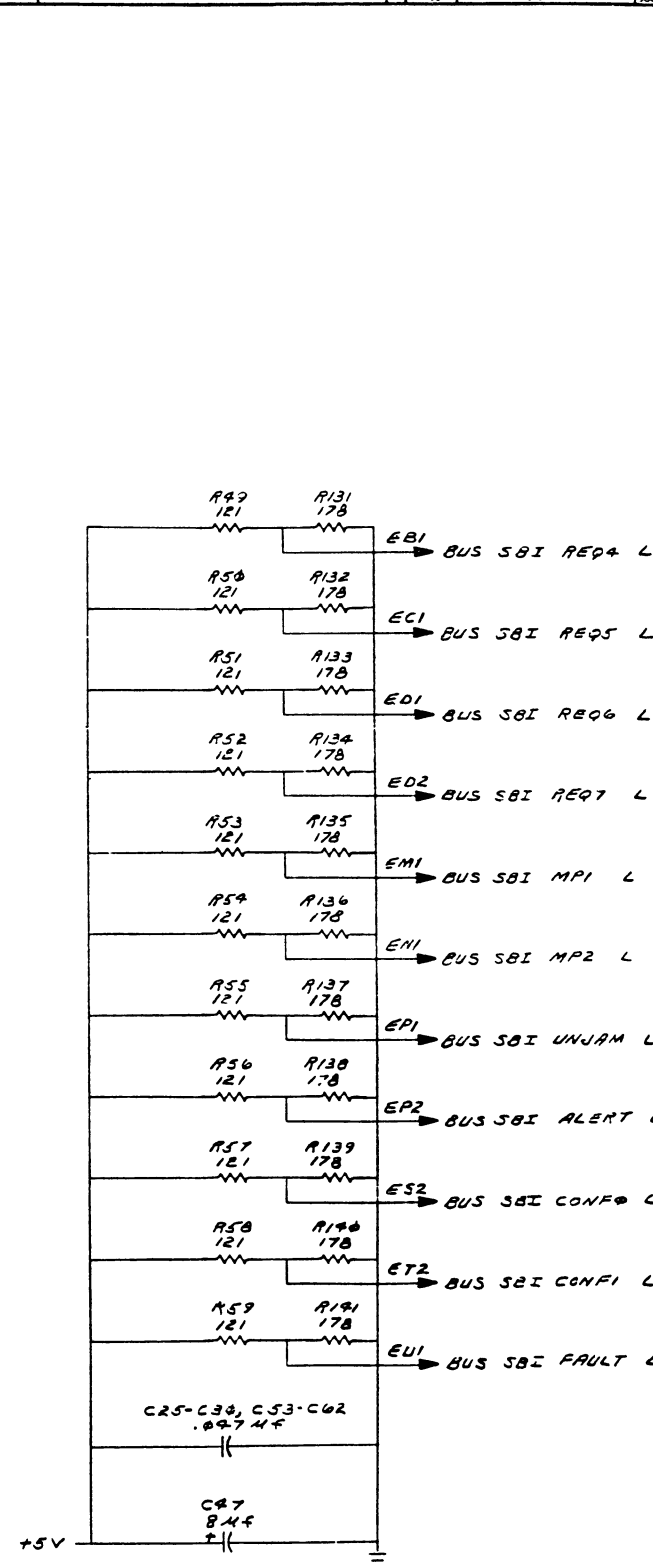
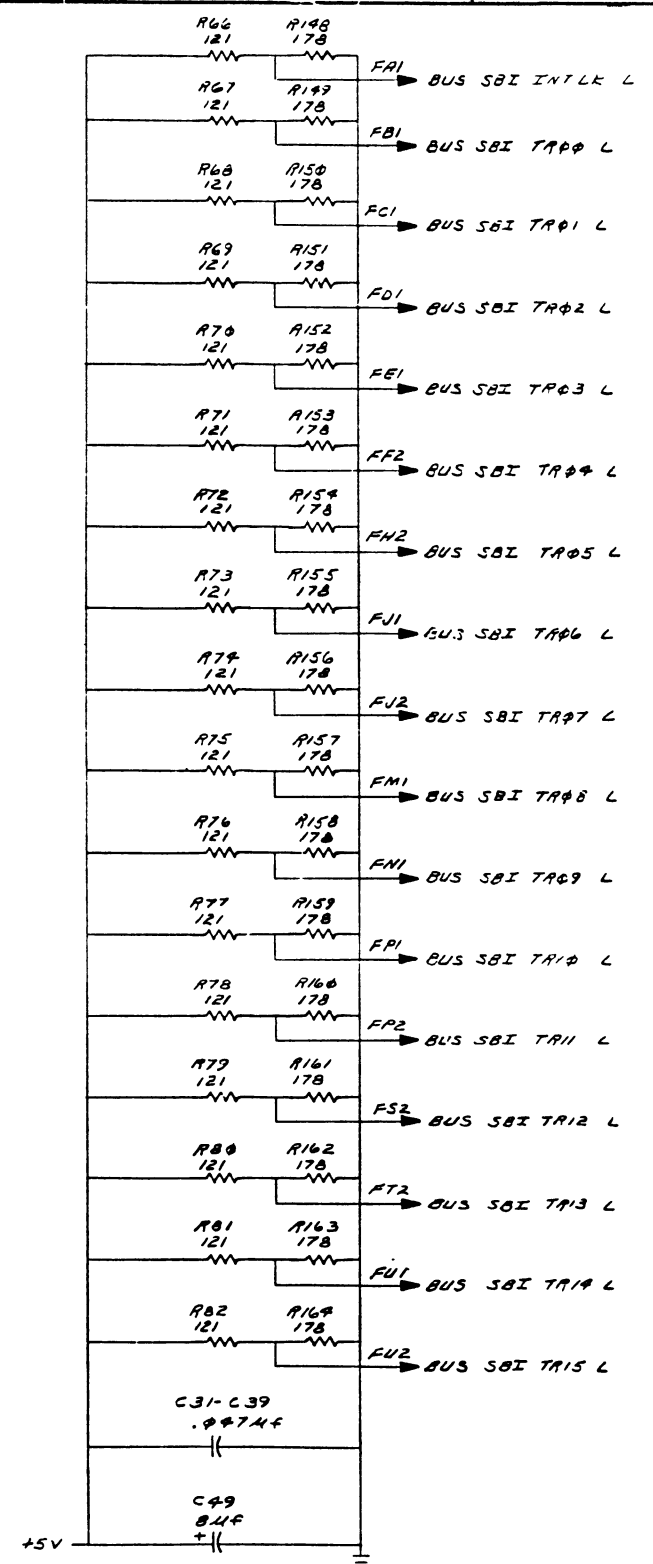
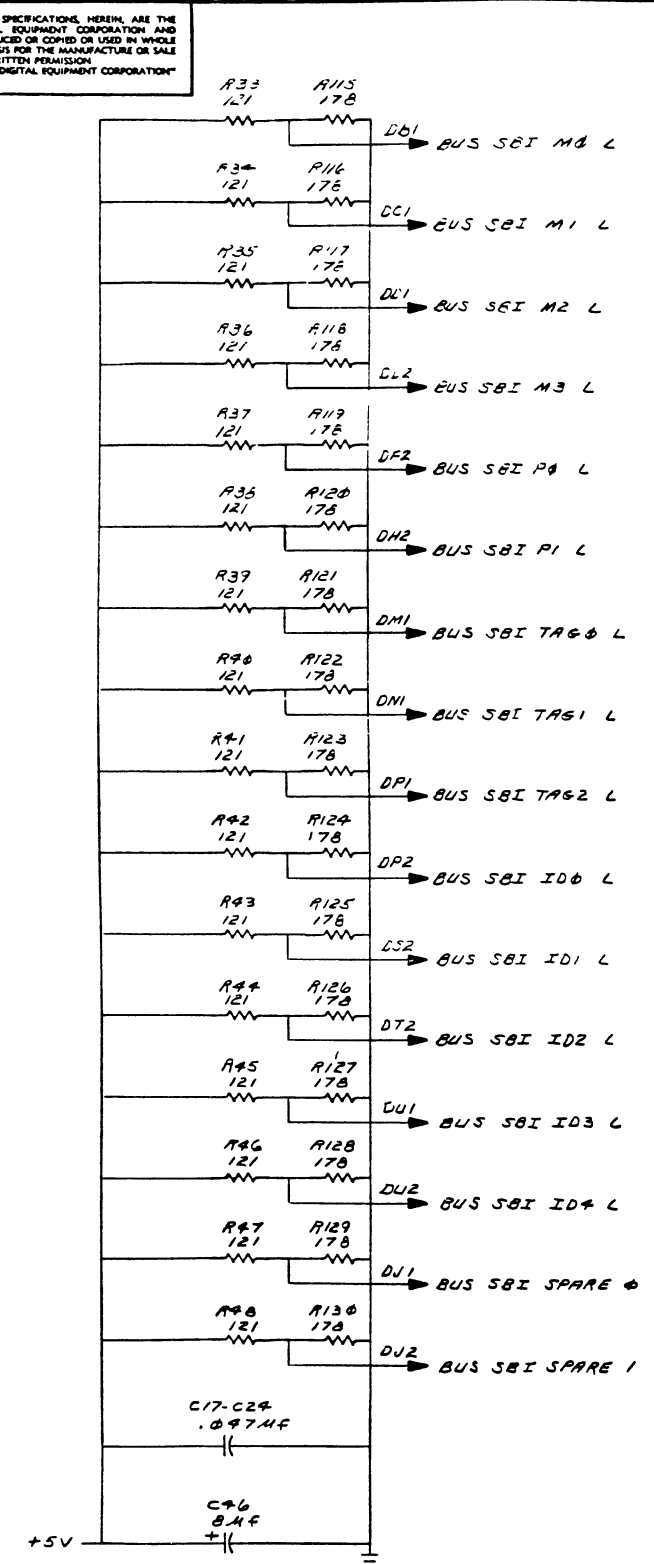
NOTE: UNLESS OTHERWISE SPECIFIED
ALL RESISTORS ARE 1/4W ±1%.

(SBI TERMINATORS)

REV.	CHANGE NO.	DATE
1	1	7-26-77
2	2	8-1-77
3	3	8-1-77
4	4	8-1-77
5	5	8-1-77
6	6	8-1-77
7	7	8-1-77
8	8	8-1-77
9	9	8-1-77
10	10	8-1-77

DRN	7-26-77	FIRST USED ON	
CHK'D	8-1-77		
ENG.	8-1-77		
PROJ. ENG.	8-1-77		
PROD.	8-1-77		
NEXT HIGHER ASSY.			
SCALE	1/4"		
SHEET	1 OF 6		
TITLE	TERMINATOR AND SILO (TRSA)		
SIZE	D	NUMBER	CS M8237-0-1
DIST.		REV.	A

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

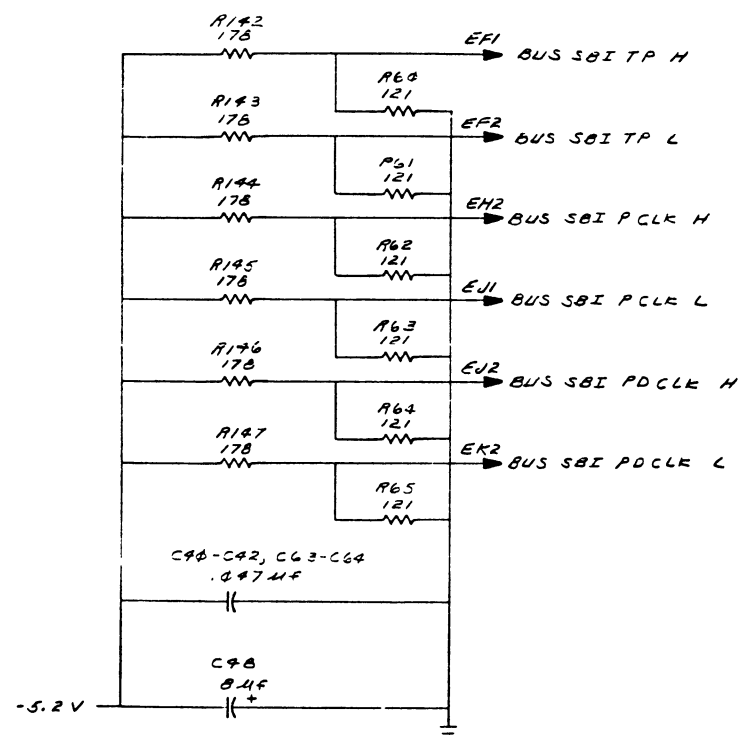


(SBI TERMINATORS)

REVISIONS													(SBI TERMINATORS)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
CHK	CHANGE NO.	REV											TITLE		SIZE CODE		NUMBER				REV.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
													TERMINATOR AND SILO (TRSB)		DCS		M8237-0-1				A																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
													SCALE		SHEET		2 OF 6				DIST.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
DEC FORM NO. 380 138																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
8			7										6										5										4										3										2										1										0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

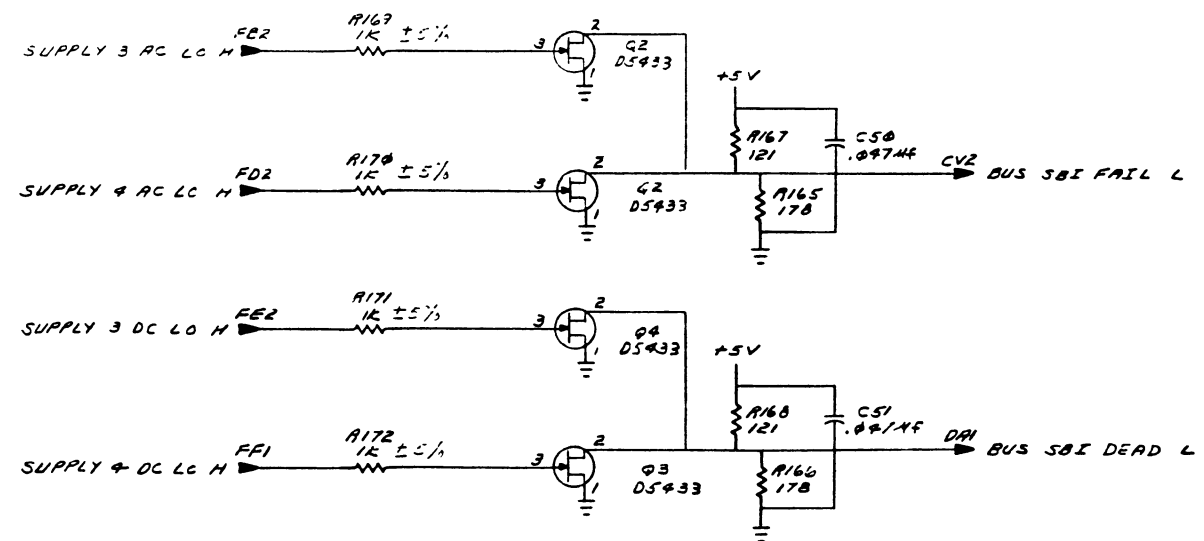
W-22 COW 501 2 1



A1A2, AV1, AV2, BV1, CA2, CH1, CA2, DV1, EA2, EV1, FA2, FV1

AC2, AH1, AN2, AT1, BC2, BH1, BA2, BT1, CC2, CH1, CN2, CT1, DC2, DH1, DN2, DT1, EC2, EH1, EN2, ET1, FC2, FH1, FN2, FT1

EK1 -5.2V



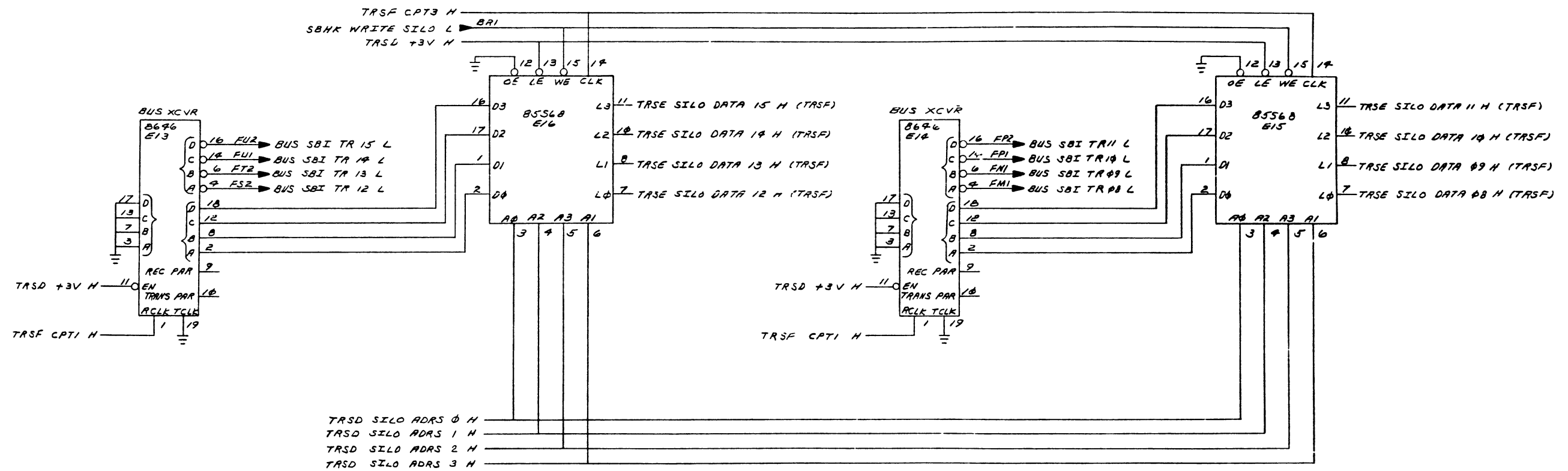
(SBI CLOCK TERMINATORS AND POWER FAIL SENSORS)

REVISIONS		
CHK	CHANGE NO	REV

TITLE	SIZE	CODE	NUMBER	REV.
TERMINATOR AND SLO (TRSC)	D	CS	M8237-0-1	.4
SCALE	SHEET	3 OF 6	DIST.	

THIS DRAWING AND SPECIFICATIONS HEREON, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION

DCS M8237-0-1 2



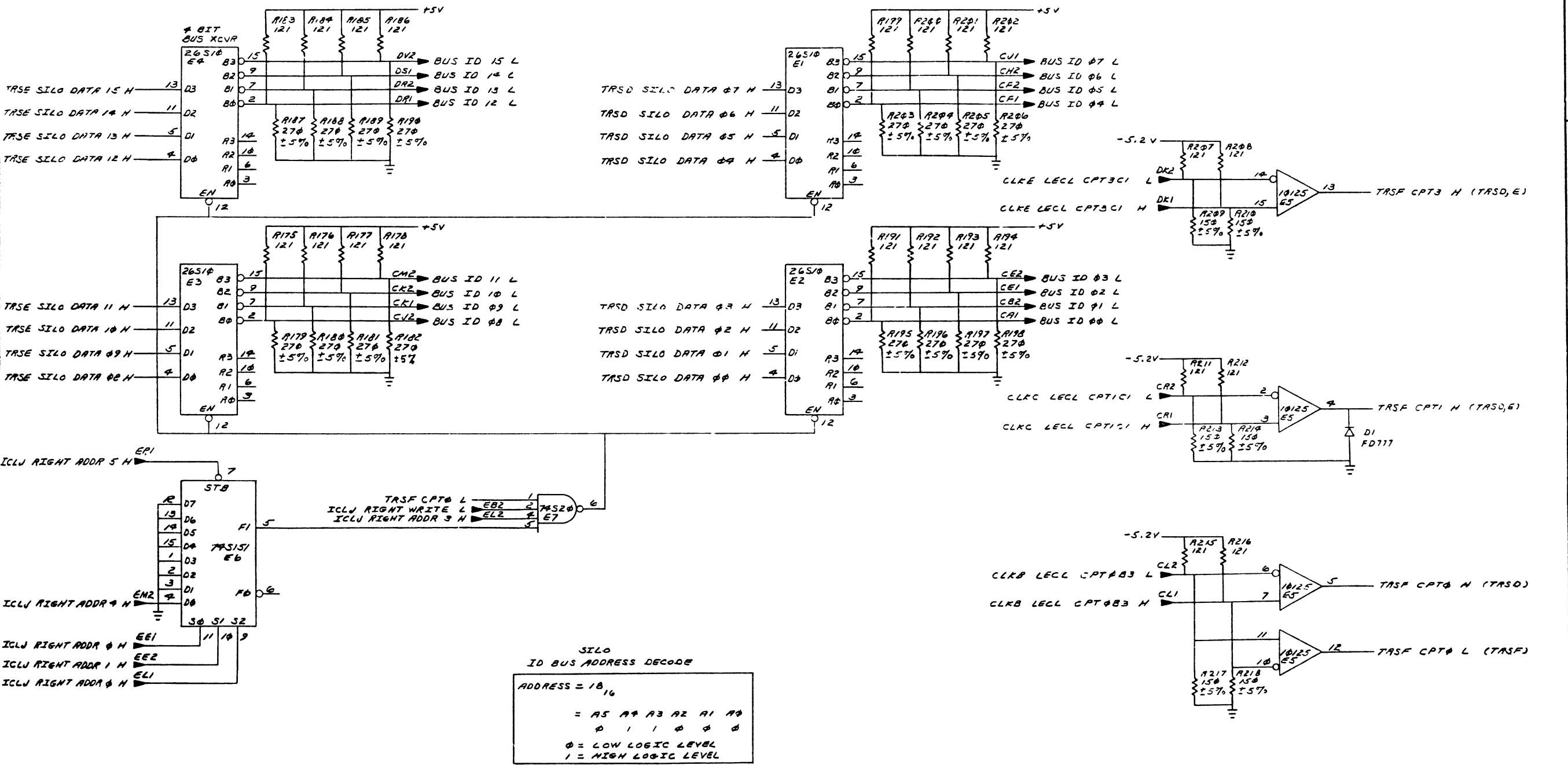
REVISIONS		
CHK	CHANGE NO	REV

(TR SILO BITS 15-8)

TITLE	TERMINATOR AND SILO (TRSE)	SIZE CODE	NUMBER	REV.
SCALE	SHEET	5 OF 6	DIST.	

DEC FORM NO. 8

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.
COPYRIGHT © 1977 DIGITAL EQUIPMENT CORPORATION



REVISIONS									(ID BUS INTERFACE)		
CHK	CHANGE NO.	REV.							TITLE	SIZE CODE	NUMBER
									TERMINATOR AND SILO (TRSF)	DCS	M8237-0-1
									SCALE	SHEET	6 OF 6
										DIST.	

BLANK